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An Alternative to Teacher-Imposed Time-Outs: The Calm Carrel

by

Kent B. Cameron



A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment

of the requirements for the degree of MASTER OF EDUCATION

in

SPECIAL EDUCATION

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

Edmonton, Alberta

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled An Alternative to Teacher-Imposed Time-Outs: The Calm Carrel.

Submitted by KENT BRADLEY CAMERON in partial fulfillment of the requirements for the degree of MASTER OF EDUCATION IN SPECIAL EDUCATION.

Abstract

The purpose of this study was to determine the effectiveness of a self-management intervention, the calm carrel, in facilitating behavioural improvement among students with Emotional and Behavioural Disorders (EBD). Following 2 months of baseline data collection in 5 Division II Behaviour and Learning Assistance (BLA) classrooms, the calm carrel was implemented in 3 classes, with the other 2 serving as controls. Under the program, in place for 2 months, students were permitted to take 5-minute sessions at a carrel, when feeling upset or angry during class. Instrumental music, relaxation strategies, and visualization exercises were available for use at the carrel. Teacher-moderated point loss systems served as the key dependent variables. Statistical analysis of results was not feasible due to small sample sizes and variability among teachers' point systems. Although findings suggested the calm carrel was not effective in minimizing point loss, teacher and student feedback indicate the intervention has potential.

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Chapter I

Introduction

Background to the Problem: A Rationale

Methods of remediating student misbehaviour in classes for children with emotional and behavioural disorders (EBD) are commonly of the teacher-directed variety. Token economies, point and level systems (Farrell, Smith, & Brownell, 1998), and teacher-imposed time-outs (Skiba & Raison, 1990) are approaches utilized in a majority of EBD classrooms. Such behavioural methodologies also dominate the research literature, as seen in Clarke, Dunlap, and Stichter's (2002) finding that most of the approximately 1200 EBD interventions reported since 1980 featured consequence-based independent variables.

Teacher-directed behavioural strategies continue to be widely applied, with a considerable amount of empirical support. Teachers' near-exclusive reliance on such approaches has highlighted the need for a closer examination of the effectiveness of time-out, token economy, and point system programs, in promoting positive and lasting behavioural change for students. Misuse of behavioural methodologies (Maag, 2001), and their lack of suitability for remediating certain types of behaviour problems in EBD classrooms (Taylor & Miller, 1997) requires exploring alternative means of classroom management for this population of students.

Increased emphasis on inclusive educational practices has also influenced the use of classroom discipline practices with both the general and EBD populations (Yell, Drasgow, & Rozalski, 2001). This has prompted greater research interest in examining behaviour management strategies that are better suited for inclusive classroom contexts.

Self-management in particular, has emerged as a possible alternative to the traditional teacher-imposed behavioural approaches that have long-dominated EBD classrooms. Research into the use of self-management as an alternative for fostering positive behavioural outcomes has been largely encouraging (Panagopoulou-Stamatelatou, 1990). These preliminary results, coupled with the recent emphasis on inclusion, as well as the research calling the exclusive use of behavioural methods into question, clearly warrant the continued investigation of the potential merits of self-management for children with EBD.

The Problem: The Purpose of the Study

A. Self-Management as Truly *Self-Management*

Self-management strategies in education research and practice frequently take the form of teacher-imposed behavioural techniques used by the students themselves. Student self-reinforcement, following self-monitoring or self-evaluation, is still a distinctly behavioural approach to classroom management. It still generally requires that teachers supply tangible rewards for positive behaviour, and it still teaches children with EBD to expect largely artificial reinforcement for demonstrating desirable behaviour. Token economies and point and level systems are generally not conducive to regular classroom environments, nor do inclusive class teachers typically establish and maintain individualized self-monitoring and –reinforcement programs for their students. As the eventual goal of EBD class placement is to facilitate successful reintegration into the regular class context, it should be considered essential that interventions employed to foster self-management in the EBD setting, lend themselves to use within an inclusive environment as well. For this reason, a strategy utilizing self-instruction combined with

the application of self-control and relaxation techniques is investigated in this study, as a means of promoting positive behavioural change through a purely cognitive, and hence, student-directed, avenue.

B. Self-management as an Alternative to Time-Out

Teacher-imposed isolation time-out is the most intrusive strategy currently being applied in EBD classrooms. Although it may well be necessary for the safety of student and teacher alike under certain extreme circumstances, it is a strategy that is also both legally and ethically problematic (Yell, 1994), and one of dubious utility in effecting long-term behavioural change (Readdick & Chapman, 2000). Further, it is virtually impossible to apply within the regular classroom context, due to physical plant limitations. Although it is frequently relied on by EBD class teachers, it is a barrier in the path towards students' successful inclusion within regular classrooms.

To prepare children with behavioural disorders for inclusion, it is important that teachers provide them with opportunities to take greater responsibility for their own behaviour, by having them learn and apply self-control strategies independently. A self-management strategy designed to replace the traditional teacher-initiated time-out technique could be helpful in fostering greater student ownership of behaviour and facilitate inclusion in the regular class. There appears, however, to be a significant dearth of research in this area. The present study attempted to go a very small way towards filling this gap by examining the value of a strategy whereby students with EBD could self-select a simple, non-punitive 'quiet time' when they felt stressed or upset during class.

The Method

The study involved the implementation of a self-management program with students in grades four to six in three classes for children with emotional and behavioural disorders. The intervention, termed a ‘calm carrel’ by the researcher, consisted of a standard-size carrel located in each classroom, and equipped with a discman and earphones, a five-minute timer, and several posters displaying diagrams of relaxation exercises and instructions for a deep breathing strategy. The discman contained a CD featuring a selection of gentle instrumental music tracks, as well as several muscle relaxation and deep breathing instructional sequences and calming visualization narratives recorded by the researcher. The CD was replaced every few weeks with a new recording.

The program’s effectiveness was measured chiefly by means of data from a teacher-controlled behavioural point system in each class. Two additional classes of EBD students also participated in the study as control groups. During the months of February and March, and the first four school days of April, data were gathered from all five classes as part of a baseline phase to determine the extent to which students gained and lost points under normal conditions. In early April, the researcher delivered a set of three half-hour training sessions on consecutive days to the three experimental classes. The sessions were designed to provide students and teachers with a complete understanding of the purpose of the intervention and the expectations for use of the calm carrel.

Following this, through the remainder of April, all of May, and the first 11 days of June, the calm carrel intervention was in place for students in the three experimental

classes. Students were permitted to take a maximum of three five-minute sessions at the carrel each day, at their own discretion, when they felt they were having difficulty staying calm in class. The students were to record their own use of the carrel on a chart posted on the desk. Data were collected through to the middle of June for all five classes, as per the baseline phase. It was hypothesized that the calm carrel's effectiveness in facilitating behavioural improvement, would be evidenced by less point loss and/or greater point gain among students in the experimental classes as compared to both their data from the baseline phase, and results from the two control classes. At the conclusion of the study, students and teachers in the experimental classes were provided an opportunity to share their feedback regarding the calm carrel intervention by completing a written survey.

Chapter II examines the literature relating to the most common behavioural methods applied in the EBD classroom, the token economy/point system, and the time-out punishment. This discussion will lead into a consideration of research into the value of self-management strategies as employed with this population of students.

Chapter II

Review of the Literature

Overview

Through an examination of related research, this chapter will provide a context for the study at hand. The review will begin with a consideration of the difficulties inherent in the use of those most commonly employed behavioural methodologies, the token economy/point system and time-out consequence. Special emphasis will be placed on discussing the isolation time-out technique, as the present study is concerned in particular with determining the potential value of adopting an alternative to this approach to management within EBD classrooms. The review will also include a discussion of research into students' use of self-management strategies, specifically self-instruction and monitoring for purposes of self-control and relaxation, as it pertains to the calm carrel intervention.

Behavioural Methods in the EBD Classroom

The Token Economy

Selected studies have shown token economy programs to be successful to various degrees when applied on an individual or small group basis in reducing the disruptive or inappropriate behaviour of children who are learning disabled (Higgins, Williams, & McLaughlin, 2001), prone to stereotypic self-injurious behaviour (Cowdery et al., 1990), oppositionally defiant and attention-deficit disordered (Musser et al., 2001; Stein & Smith, 1990), or otherwise emotionally and/or behaviourally disordered (Champagne & Ike, 1990; Drege & Beare, 1991). Research has reported instances where token systems

have been effectively implemented in elementary (Shook et al., 1990), secondary (Inkster & McLaughlin, 1993), and medical (Carton & Schweitzer, 1996) settings.

The token economy has several apparent drawbacks. A discussion of these will serve to illustrate the value of implementing a more student-centered approach to classroom management and, thus, will lend credence to the calm carrel intervention. The majority of the token economy's difficulties appear to stem from its teacher-directed nature.

One concern with this externally-controlled method of management relates to the possibility that students will rebel against the system if they perceive behavioural expectations for the attainment of tokens or backup reinforcers to be unrealistic. Such was hypothesized to be the case in a study by Miller and Cosgrove (1990), in which levels of student misbehaviour increased as behavioural requirements for token exchange became more stringent. If children view the earning of tokens as an insurmountable challenge over which they have minimal control, they are likely to become resentful and invest little effort in subscribing to standards of classroom behaviour. Miller and Cosgrove (1989) even reported instances where the receipt of token economy fines was followed by verbally and physically abusive reactions towards staff members. Further, student ownership of behaviour cannot be fostered if certain children are routinely excluded from the opportunity to earn tokens and purchase backup reinforcers, and thus are made to feel they have little influence over their own success in the token program, and therefore, their status in the classroom. The dilemma here is that if the EBD teacher attempts to adapt criteria for token delivery in order to accommodate these students, this

is done at the risk of compromising classroom behavioural objectives, thus running counter to the purpose of the token economy itself.

Equally problematic is the task of ensuring that students consider the backup reinforcers offered to be sufficiently motivating and worthwhile as to merit the performance of teacher-specified behaviours. A given event, activity, or tangible item may have considerable reinforcing value to one child, and yet hold little or no such appeal for another student in the same classroom (Kazdin, 1994). If, however, teachers attempt to take the relative value of reinforcers into account by tailoring rewards to the interests and preferences of individual students, this could easily render fair and unbiased token exchange an impossibility. The calm carrel intervention explored in this study is entirely student-based, and hence avoids the pitfalls and tensions associated with token dispersal criteria and reinforcer availability and selection.

Despite the prominence of the token economy method in EBD classrooms, there is a lack of actual empirical support for its use as a whole-class intervention to effect behavioural change. The fact remains, its efficacy is all too often evaluated by means of vague reference to global outcomes (Moore, 1999). Specifically, there is a dearth of longitudinal research attesting to its value in improving student behaviour. This is surprising given that the apparent objectivity of the token economy should make it particularly well-suited to efficient data collection and analysis. “Level 1 research,” to be conducted by and for practitioners within the setting where the intervention is most typically used (the EBD classroom) is necessary to draw valid conclusions regarding its effectiveness, but this has not, to date, been forthcoming (Reitman & Drabman, 1999). Literature exploring the use of the token economy focuses mainly on evaluating its short-

term success in treating the behavioural problems of individual and small groups of children within largely clinical or contrived experimental environments. There is also a great deal of non-empirical literature, aimed chiefly at advising teachers on procedures for establishing and maintaining a token economy. (e.g. Ayllon, 1999; Lyon & Lagarde, 1997; Myles et al., 1992; Naughton & McLaughlin, 1995). What is missing are clear and comprehensive findings assessing the token system's merit, and contrasting its benefits with those derived from the use of less intrusive methods of behavioural management, as implemented by the EBD classroom teacher over the long-term. The present study attempted to go a small way towards meeting this goal by examining the behavioural impact of the calm carrel intervention, when applied concurrent to the EBD teacher's use of a token economy/point system.

While we await research documenting the long-term consequences of token economy application within typical EBD classrooms comprising groups of students presenting with widely variant EBD behaviours, some might argue that the token system's widespread use justifies its continued inclusion in the special education teacher's canon of behavioural strategies. However, as with other behavioural methodologies such as the level system (Smith & Farrell, 1993), its prevalence cannot be assumed to reflect its effectiveness. Certainly, some research should cause us to question its value. Mann-Feder (1996), for example, found no significant difference between the use of a token economy and the use of a 'therapeutic community' humanistic intervention in minimizing the inappropriate behaviours of conduct-disordered students. Similarly, Fachin (1996) reported a scenario in which a token economy proved to be of only minimal value in treating the disruptive behaviour of a child with attention-deficit

hyperactivity disorder, who was actually simply in need of medication. Further, Gumpel and David (2000) determined that the absence of overt and conditional reinforcement did not impact upon the capacity or tendency of children with social and emotional difficulties to self-regulate their own behaviour. Additionally, an editorial in the *Journal of Mental Health* (1992) posited that the social interaction inherent in the administration of tokens and reinforcers, may in fact be the crucial therapeutic ingredient in those cases where the token program does prove effective. It seems that researchers and practitioners alike may do well to reexamine the types of outcomes they are anticipating will follow from the use of token economy systems. If desired behavioural results could be attained through a more student-directed avenue, this should be explored empirically.

In addition to questioning whether the token system is a successful means of bringing about behavioural change in EBD children, some in the field take issue with the intervention's resolutely behavioural nature from an ethical standpoint. Distributing tokens and reinforcers contingent upon students' emission of appropriate behaviours could, without much imagination, be seen as a fairly obvious form of bribery, and as demeaning children by restricting their capacity to act autonomously (Maag, 2001). A self-management intervention such as the calm carrel, would have no such coercive overtones.

Even were we armed with a logical and accepted rationalization for the use of token systems with children displaying behavioural problems, we would still be faced with the inevitable difficulty of generalization across contexts. Managing an often-complex token economy (for example of the type described by Adair & Schneider, 1993) is a task which taxes both a teacher's time and resources. It is simply unreasonable,

therefore, to expect educators in contemporary inclusive classrooms to embrace such an assignment. Given that the ultimate goal of EBD placement is to work towards the eventual integration of students into inclusive classrooms, it seems advisable that EBD teachers attempt to base their classroom management strategies upon those most commonly applied by regular class teachers, as this will provide students with the best chance of coping with the behavioural demands of integration. To this end, a non-intrusive self-management program such as the calm carrel is more conducive to use within both an EBD and inclusive classroom, than is an elaborate token program.

Time-Out

Given that approximately 70 % of EBD class teachers report using a time-out procedure as part of their behavioural management program (Skiba & Raison, 1990), and that the calm carrel intervention is essentially intended as a non-punitive, self-selected replacement for the traditional, teacher-imposed time-out, attention will be focused here on describing briefly what is entailed by the time-out technique, and then considering in greater depth ways in which it could be considered problematic, hence highlighting the need for a self-managed alternative approach.

Time-out is intended to function as an aversive consequence, thereby decreasing the likelihood that a child will repeat his or her offensive or inappropriate behaviour. Indeed, as Cuenin and Harris (1986) note, the effectiveness of isolation time-out is largely dependent on the assumption that the time-out environment should have significantly less reinforcing value to the child than that of the larger classroom setting. The greater this discrepancy between the ideally highly reinforcing value of the classroom and the minimally reinforcing value of the time-out room, the more likely the

latter setting will supposedly serve as a deterrent to misbehaviour (Turner & Watson, 1999).

Research into the effectiveness of the isolation time-out technique has been largely inconclusive. The majority of studies that do exist examine use of the strategy on an individual and relatively short-term basis. In the absence of definitive indication of the approach's success, it nevertheless continues to be applied frequently in many EBD classrooms. Some literature is devoted to providing suggestions for teachers on the use of time-out (e.g., Hall & Hall, 1998; Cuenin & Harris, 1986). The extent to which such recommendations are being applied in practice, however, is questionable. The time-out strategy, by its intrusive and restrictive nature, seems prone to abuse, and, by at least some accounts, is often misused by EBD teachers.

Turner and Watson (1999) present evidence supportive of the view that shorter time-outs lasting five to ten minutes are generally more effective in reducing inappropriate behaviour than are longer time-outs, a perspective consistent with that of other researchers in the field. Although this is the established recommendation, in practice the amount of time students spend in time-out over the course of a school year can be extremely variable. A study of 73 EBD students by Costenbader and Reading-Brown (1995) found that the children were assigned an average of 23 hours each in time-out over the course of 175 instructional days, but that this number ranged for individual students from no time at all to a high of almost 165 hours logged by a single child. Even if the teachers in this study had subscribed to Turner and Watson's (1999) guideline for appropriate time-out length, their over-reliance on time-out as a behaviour management strategy is nonetheless clearly apparent. Missing 165 hours of classroom instruction and

interaction could not be considered of benefit to a student supposedly on the pathway to reintegration within a regular class setting.

In an effort to determine why time-out reduces the acting-out behaviour of some children but not others, Taylor and Miller (1997) completed a study in which they discovered that students whose misbehaviours stemmed from a desire to escape the classroom context did not benefit from the time-out intervention, whereas students whose behaviours were primarily attention-seeking in nature did benefit. Surely if the use of time-out is found to be positively reinforcing the negative behaviours of attention-seeking students, it should be viewed as being detrimental to them, and the class as a whole. A further hindrance to the utility of time-out is highlighted in a study by Readdick and Chapman (2000) which examined children's perceptions of time-out, indicated that less than half of the students interviewed were able to correctly explain why they had been excluded from the class. The authors concluded that this renders somewhat suspect the likely effectiveness of the time-out event in preventing future misbehaviours. It seems the only clear conclusion from research examining time-out's effectiveness, is that it is by no means successful in facilitating behavioural improvement for all students under all circumstances.

The fact that time-out's utility depends on the individual child's behaviour and perspective, is underscored by Shriver and Allen (1996), who describe a time-out grid that illustrates the significance of the contrast between time-in and time-out environments. In their explanation of the grid, they posit that if the time-out room is seen by the child as a means of avoiding unpleasant classroom learning experiences, the effect will be one of behavioural deterioration, where reverse reinforcement contingencies

render the time-out environment a more rewarding one than the class itself. Similarly, the peer and teacher attention often gained through receipt of a teacher-imposed time-out, may be regarded as very reinforcing in the eyes of some children, hence lessening the effectiveness of the time-out (Friend, Bursuck, & Hutchinson, 1996).

It is clear that time-out may have unintended consequences, and that these consequences are principally determined by the extent to which children regard the time-out environment to be more or less reinforcing than the time-in environment. By removing the factors of externally-imposed reinforcement and punishment, the calm carrel intervention is intended to serve as a neutral ground where students can regain control over their emotions and return to the class context without confrontation.

In recent years isolation time-out has been taken to task on both ethical and legal grounds (Kerr & Nelson, 2002; Savini & Rubenstein, 2000). In addition to being questioned with respect to its dubious practical utility, the technique has been viewed by some as possibly violating students' basic educational rights (Maag, 2001). From Haiman's (1998) perspective, time-out neither elucidates nor addresses underlying causes of misbehaviour, and is detrimental to the important aim of meeting a child's frustrated needs. In addition, the use of time-out does not appear to be in keeping with the goal of fostering inclusive educational practices, as in most instances of misbehaviour it cannot be considered the least restrictive alternative form of intervention (Barton, Brulle, & Repp, 1987).

From a practical viewpoint, perhaps one of the greatest drawbacks of isolation time-out, is its failure to adhere to the fair pair rule, which posits that "if a behaviour is to be decreased, then another behaviour should be increased" (Yell, 1994, p. 297). The

behavioural time-out strategy does not teach children more appropriate or adaptive behaviours, but merely excludes them from classroom participation under the auspices of minimizing disruption to other students.

Self-Management of Behaviour as an Option for Children with EBD

In the interests of fostering greater generalization and teaching children with EBD to take increased responsibility for their own behaviours, self-management techniques can be seen as having considerable value (McConnell, 1999). Extending beyond the comparatively quick fix solutions of time-out and the token economy, encouraging children to monitor and make evaluative decisions on the basis of their own behaviour, is a more meaningful and logical approach to addressing misbehaviour. It is an opportunity for learning and growth, rather than a fertile ground for conflict and punishment. Insofar as students strive for both control and structure over their own behaviour, providing opportunities for self-management will empower them to become accountable for the choices they make, and will help to ensure they have greater vested interest in learning and behavioural outcomes (Bluestein, 1999). The calm carrel intervention was designed with this in mind. The intent was to build upon existing self-management research by combining those aspects of self-monitoring and self-evaluation that were least behavioural and most conducive to eventual generalization in an inclusive context, with relaxation and visualization exercises that could form the basis for student self-instruction.

For those children who do not benefit from time-out procedures (Taylor & Miller, 1997), a more cerebral approach such as self-management could be considered of value, particularly given that awareness of one's own behaviour is surely an important goal for

students in EBD classrooms. Researchers have demonstrated that cognitive-behavioural self-management techniques can be a worthwhile alternative means of increasing children's awareness of problem behaviours, and in reducing instances of disruption and aggression (Gumpel & David, 2000; Panagopoulou-Stamatelatou, 1990). Studies in the area, however, paint a confusing picture at best. The range of approaches to self-management, the many disorders and combinations of disorders with which these can be applied, and the variety of conditions under which self-management can be employed, provide researchers with literally countless permutations requiring exploration. It is safe to say the field is still in its relative infancy.

In general, self-management of behaviour can take the form of self-monitoring, self-evaluation/reinforcement, and/or self-instruction. Self-monitoring is typically defined as "the systematic observation and recording of one's own behavior" (Akanke, 1997, p. 275). Although it can be used purely for assessment purposes, whereby students keep track of their personal behavioural improvement or deterioration, it is more typically considered as an intervention in and of itself (Shapiro & Cole, 1999).

It has been found that fostering students' awareness of their own behaviour by means of self-monitoring can have a potentially reactive effect in the sense of leading to improvement in the behaviours being tracked (Lam & Cole, 1994). Self-monitoring techniques have been most successfully employed for purposes of improving attentional/on-task behaviours (e.g. Shimabukuro & Serena, 1999; Kern & Dunlap, 1994), although they have also been applied with an aim to facilitating academic productivity and accuracy, by way of concurrent behavioural gains (e.g. Maag & Reid, 1993). Champagne and Ike (1990) demonstrated the efficacy of combining self-

monitoring procedures with a token economy program, thereby highlighting a way in which teacher-imposed methods can be paired with student-directed techniques. When this is viewed in light of research which, though supportive of token economies, nonetheless recommends fading these in favour of student self-monitoring over time (e.g. Higgins et al., 2001), it becomes clear that the ultimate goal of EBD classrooms should be that of progressing towards more student-centered management techniques.

In further defense of this perspective, research by O'Reilly et al. (2002) suggested that self-monitoring can be a crucial element in ensuring the effective reintegration of behaviourally-disordered students into inclusive educational classrooms, thus illustrating the strategy's generalizability across contexts, as well as its capacity to promote student ownership of behaviour. As mentioned earlier, self-monitoring is frequently combined with self-evaluation and –reinforcement, and thus at root a chiefly behavioural strategy. Regardless, it is more student-directed than are traditional teacher-managed token economies and point systems, and thus of value in progressing towards even more natural and self-sufficient forms of behavioural regulation. The calm carrel intervention, while not incorporating self-monitoring as a major component, did allow for students to record their personal use of the carrel on a chart, thereby providing them with a visual record of the attempts they made to take responsibility for their behaviour.

Self-evaluation basically entails a student's placing some kind of value on the quality or quantity of their performance of specified behaviours. It can be applied as an independent strategy, but is more commonly paired with self-reinforcement, an outgrowth of the token economy, whereby students administer some form of reward to themselves subsequent to their meeting pre-determined behavioural criteria. Several

studies report on the successful application of self-evaluation and self-reinforcement techniques for purposes of facilitating behavioural improvement in children with EBD. Self-evaluation was in fact found by McQuillan and DuPaul (1996) to be more effective than teacher-based evaluation of student behaviour as a means of fostering improved classroom performance. This would seem to suggest the value of fading traditionally teacher-imposed methods of management such as the token economy, in favour of more student-directed approaches. Indeed, this is consistent with those studies indicating that self-selected behavioural performance standards and self-determined reinforcing consequences generally prove most effective in motivating students to earn tokens (Panagopoulou-Stamatelatou, 1990).

Self-reinforcement has also proven a successful adjunct to methylphenidate treatment in improving productivity behaviours among children with ADHD (Ajibola & Clement, 1995; Chase & Clement, 1985), indicating its utility in consort with this commonly applied form of treatment for students with behavioural difficulties. When used in combination with non-obtrusive peer-monitoring, it serves as a valuable means of easing students' transition from a segregated EBD context to an inclusive classroom (DuPaul & McGoey, 1997). Despite the behavioural overtones of self-evaluation and – reinforcement, these approaches remain preferable to purely teacher-driven interventions, as they serve as stepping stones to more internalized modes of self-management, specifically of a self-instructional nature. The calm carrel intervention thus presupposes an element of self-evaluation, in that students are credited with being sufficiently aware of their personal 'triggers', as to make an evaluative judgment by choosing to take a five minute session at the carrel when they deem it necessary.

Whereas self-monitoring, self-evaluation, and self-reinforcement are essentially contingency-based approaches to management, in that they focus on the consequences of students' actions, self-instruction is a cognitive-based method, and one which provides children with mediational tools and strategies designed to preempt misbehaviour before it becomes problematic (Cole & Bambara, 1992). With cognitive-based methods, the aim is generally to alter the child's way of viewing difficult situations, such that they will be better able to exert self-control and apply problem-solving behaviours to reach positive outcomes (Shapiro, DuPaul, & Bradley-Klug, 1998). Research into the use of self-instructional methods with the EBD population has its roots in the work of Meichenbaum and Goodman (1971). Since that time, a number of studies have examined the use of self-instruction as a means of behaviour management in classrooms. The variation in approaches applied (Cole, 1992), as well as in subject and setting characteristics, however, make it difficult to draw firm conclusions regarding the general effectiveness of the intervention. Results of individual studies, nevertheless, have been largely encouraging (Panagopoulou-Stamatelatou, 1990), and thus lend credence to the potential value of the calm carrel intervention.

Self-instructional strategies discussed in the literature range from complex programs requiring weeks of student training procedures (Grossman et al., 1997), to simple four-step problem clarification and decision-making sequences (Swaggart, 1998). The present difficulty in assessing the value of any one approach highlights a need for replication and for greater consistency across methods being evaluated. Notable among studies of self-instruction, is what appears to be a growing trend towards the use of such programs within a whole class context. Whereas researchers assessing token economy

and time-out interventions typically include smaller sample sizes, those studying antecedent-based self-management often examine a strategy's success on a whole-class basis, thereby implying that such methods are intended for use in inclusive classroom environments. Indeed, Mitchem (2001) found a peer-assisted form of self-management to be particularly well-suited for long-term use within a whole-class context. Similar success resulted from the application of a self-instructional program in combination with a group contingency system in a regular education classroom including four students with ADHD (Davies & Witte, 2000). The fact that the implementation of self-instructional programs requires only minimal time and effort on the part of the teacher, while allowing students to take greater ownership over their behaviour (King-Sears & Bonfils, 1999) and develop coping strategies that can be applied in other environments (Peterson & Young, 1999), makes this form of self-management a particularly valuable alternative to traditional teacher-imposed behavioural methods (Prater, 1994).

A component sometimes incorporated into self-instructional programs is the provision of relaxation training to students, behaviourally-disordered and otherwise. Although there is much research still to be done in this area, preliminary results suggest there is value in teaching children the basics of relaxation. In particular, it appears that physiological parameters such as pulse rate and systolic blood pressure are impacted positively, at least in the short term, by systematic relaxation training, including imaginative and progressive muscle relaxation (Lohaus & Klein-Hebling, 2000). A study examining the impact of stress management training for children, found that students developed a greater internal locus of control and scored higher on self-concept measures subsequent to their completion of the program, which included sessions on the use of

muscle relaxation, deep breathing, and imagery to foster positive coping responses to stressful situations (Henderson & Kelbey, 1992). Specific to children with behavioural disorders, Jackson and Owens (1999) highlight the importance of ensuring students are aware of the physiological and emotional signs of stress, and are able to apply specific techniques when feeling anxious.

There remains a need for much greater study of the value of implementing relaxation programs in EBD class contexts. Nonetheless, there are numerous resources which provide descriptive accounts of effective multipurpose strategies that can be employed (e.g. Payne, 2000; Neidhardt, Conry, & Weinstein, 1982; Cautela & Groden, 1978). The calm carrel intervention made use of muscle relaxation exercises as detailed in these resources, as well as relaxing music, visualizations, and deep breathing, with an aim to determining whether these elements could be successfully incorporated into a structured self-management program.

Conclusion

In this review of literature the author has attempted to chart a brief course through several areas of relevance to the thesis. A description of drawbacks associated with the token economy was intended to illustrate how this frequently-used behavioural methodology nonetheless presents several problems stemming from its teacher-imposed format; problems that might be rectified by use of a self-management alternative. Due to its common application in EBD classrooms, the token economy, more specifically in the guise of a point system, served as the key dependent variable for this study, providing a measure of the effectiveness of the calm carrel intervention. A discussion of the shortcomings of the isolation time-out technique was included in the review, as it is

generally considered the most aversive of behavioural strategies currently employed in EBD classrooms, and the one which might be best replaced by a self-management intervention such as the calm carrel. By presenting a brief overview of research on the use of self-monitoring, self-evaluation/reinforcement, self-instruction, and relaxation strategies as employed with the EBD population, the author hoped to highlight the fact that these areas of study, while as yet relatively undeveloped, do hold much promise for future consideration. The positive findings to date, coupled with the need for a student-centered management strategy conducive to use in both an EBD and inclusive class context, served as the impetus for the calm carrel intervention.

Chapter III

Method

This chapter will feature a discussion of the procedures applied to assess the potential value of the calm carrel self-management intervention.

Participants

For purposes of this study, the researcher engaged the participation of five segregated classes of division two (grades four to six) students who were coded as having emotional and behavioural disorders (EBD) according to Edmonton Public School District criteria. By necessity, the selection of these groups was not randomized. There are a limited number of division two Behavioural and Learning Assistance (BLA) classrooms in the district, and although letters requesting participation were distributed to a total of 10 teachers, only five responded in the affirmative. In order to ensure teachers' satisfaction with their respective roles in the study, assignment to groups was not randomized. A cover letter, as well as information letters pertaining to the experimental and control categories (Appendices A1-A3), were provided to school principals, and group assignment was then made dependent upon the preferences of the individual teachers. Of the five classroom teachers responding, three elected to participate in the experimental group, while the remaining two volunteered their classes to serve as controls. Permission forms (Appendix A4) were distributed to parents of students in the experimental classes, while information letters (Appendix A5) were sent to parents of students in the control classes.

The participating classes were all elementary BLA district sites, where students with EBD from various locations in Edmonton received special education services

focusing on “learning behavioral control and pro-social skills as well as academic development” (http://districtsite.epsb.ca/cgibin/ShowProgramProfile.cfm?Program_ID=33). Students in these classes all demonstrated behaviours which “significantly interfered with both the learning and safety of (themselves) and other students” (http://www.learning.gov.ab.ca/k_12/specialneeds/SpecialEd_def.pdf). Common diagnoses among students in BLA contexts include Conduct Disorder, Tourette’s Syndrome, Oppositional Defiant Disorder, Obsessive/Compulsive Disorder, and Attention Deficit/Hyperactivity Disorder. Details regarding the sample sizes of classes included in this study are depicted in Table 1.

Table 1

BLA Class Information

Group Assignment	Experimental Class A	Experimental Class B	Experimental Class C	Control Class A	Control Class B
Number of Students	N=9 (all male)	N=11 (all male)	N=8 (all male)	N=8 (3 female)	N=8 (1 female)
	Total Experimental N=28			Total Control N=16	

Procedure

Subsequent to obtaining teacher and parental permission for students’ participation in the study, the researcher conducted meetings with each of the experimental group teachers in January, 2003, during which details of the calm carrel intervention were outlined. The months of February and March, combined with the first four school days of April, served as the baseline phase of the study. This amounted to a

total of 41 days of pre-intervention data collection during which the researcher made classroom visits in order to gather records pertaining to the point loss incurred by individual students in all five classes. In two of the classes (Experimental Class A and Control Class A), data on the number of teacher-imposed time-outs were readily maintained by the teachers, and thus was also gathered by the researcher. Further discussion of these dependent measures is included in the *Instruments* section of this chapter.

During the last week of baseline data collection (in early April), the researcher conducted a series of three half-hour training sessions on consecutive days with each of the experimental group classes. The purpose of these sessions was to increase students' awareness of their own behaviours and to draw their attention to how the calm carrel intervention could be employed as a self-management strategy to reduce frustration and promote positive, on-task behaviours during class. Students were actively involved in discussion throughout the sessions, and were given opportunities to practice operating the calm carrel equipment and to employ the relaxation strategies intended for use at the carrel. A more detailed outline of the calm carrel training sessions is included in Appendix B.

The experimental phase of the study began the week following delivery of the three student training sessions. During this period, through the remainder of April, all of May, and the first 10 days of June, students in the experimental group classes were allowed full use of the calm carrel intervention. The researcher continued to collect point loss data from both the experimental and control group classes during bi-weekly visits

conducted throughout this 42 day phase of the project. Data on the extent of teacher-imposed time-outs were also collected from Experimental Class A and Control Class A.

The calm carrel intervention itself entailed permitting each student to take up to three five minute sessions per day at a wooden carrel located at the back or side of each of the experimental classrooms. During the training lessons, students had been instructed to employ the carrel as a means of calming down when they felt themselves becoming upset, angry, or otherwise agitated during the course of regular classroom activities. Use of the carrel was intended to be entirely student-driven. When a student felt he could benefit from a five minute session, he was to proceed directly to the carrel, ensure it was not already in use, and then place a checkmark next to his name under the correct day on the record chart, thereby indicating a single use of the carrel at that time. Once seated at the carrel, the student was to press a button on a digital countdown timer, which was perpetually pre-set to five minutes and secured to the carrel itself in a plastic casing in order to prevent tampering.

During the five-minute session at the carrel, students were allowed to make use of any of the strategies that had been addressed during the training program. The techniques centered chiefly upon the use of a portable Durabrand compact disc player with headphones, which was fastened to the inside of the carrel. A CD compiled by the researcher and replaced on a biweekly basis, was secured inside the player at all times. Each CD featured a selection of 11-12 instrumental music pieces, primarily of the classical, new-age, or easy listening variety, chosen for their calming and/or uplifting properties. Also included on each CD was a set of either three or four relaxation instructional sequences, recorded by the researcher, overtop a soothing background music

accompaniment. The relaxation exercise clips included general whole-body sequences, as well as tracks devoted more specifically to relieving tension in key body parts, such as the face, neck and shoulders, and hands and arms. Finally, each CD featured two to four visualization narratives recorded by the researcher, again overtop relaxing background music selections. Relaxation sequences and visualization scripts were composed of a blend of strategies and ideas drawn from published sources, in combination with the researcher's own input. The visualization and relaxation scripts are included in Appendix C, and listings of the CD tracks featured on the compilations (as posted for students at the calm carrel) are included in Appendix D. More complete listings of CD musical selections with artist and track title details can be found in Appendix E.

In addition to those strategies described above stemming from use of the compact disc player, the calm carrel included two posters depicting illustrations of the key relaxation exercises featured on the CD, coupled with brief instructions for their successful execution. A simple deep breathing exercise was also shown and described on one of the posters. Undersized copies of these poster displays are included in Appendices F1 and F2. If students did not find any of the above-mentioned techniques to be helpful to them while using the carrel, they had been encouraged to simply relax quietly and/or create their own imaginative visualizations until the five-minute time period had elapsed. Students were not permitted to bring any of their own materials to the carrel with them, but were able to make use of any of the strategies posted at the carrel, and to choose any selection(s) they wished from the CD provided. The countdown timer signaled the conclusion of the session by means of a quiet beeping sound which was wired through the CD player headphones, such that it was audible to the student at the carrel, but did not

prove disruptive to others in the class. Upon reaching the end of the session, students had been instructed to turn off the CD player, press a button to reset the timer, and then quietly join the rest of the class. A description of the basics of the use of the calm carrel strategy was posted at the carrel for easy reference by students (Appendix G). Photos depicting the calm carrel setup can be found in Appendix H.

While using the calm carrel, students were expected to subscribe to the same behavioural standards expected of them during normal classroom activities. Teachers were instructed to tentatively revoke the privilege of calm carrel use for individual students demonstrating inappropriate behaviours while at, or in transit to, the carrel. Similarly, students' use of the carrel was not in any way to compromise teachers' capacity to manage their classrooms. As such, teachers were instructed to maintain their usual approaches to behaviour management, as well as their criteria for point loss and time-out assignment. Behaviours that would have resulted in a loss of points or a teacher-imposed time-out prior to the introduction of the calm carrel, were to effect the same consequences during implementation of this self-management intervention. In this sense, as students were informed, the calm carrel was intended to serve as a non-intrusive option available as a preventative measure for purposes of preempting the occurrence of problematic behaviours. In an effort to ensure that the carrel was viewed by students as a positive and entirely non-punitive opportunity for relaxing and refocusing, the researcher instructed teachers not to require that students compensate for time taken at the carrel by completion of extra work afterwards. This stipulation was seen as reasonable by teachers, as student use of the carrel would not, even at maximum, exceed the length of a standard recess period.

Over the course of the experimental phase of the study, and in addition to regular data collection, the researcher made a number of visitations to those classes participating in the intervention in order to ensure it was running smoothly from the perspective of both teachers and students. These visits also included new CD deliveries, as well as battery and carrel chart replacements. Aside from a broken earpiece on one of the classrooms' headsets, students did not appear to have mistreated any of the calm carrel materials. At the conclusion of the experimental period, in mid-June, the researcher made a final visit to the classrooms to distribute surveys to ascertain both students' and teachers' opinions of the calm carrel intervention. Blank copies of these surveys are located in Appendices I1 and I2.

Instruments

The key dependent variable in this study was student point loss as evidenced by use of teacher-maintained records in each of the classes. In collecting this data, the researcher endeavoured to determine the extent to which point loss differed between the experimental and control classes, as well as between the baseline and experimental phases of the study for each of the classes. It was thought that students' loss of points, reflecting both the severity and frequency of their misbehaviours, would be indicative of the effects of the calm carrel intervention.

Among the five classes participating in the study, four different variations of the basic point loss system were employed. These are summarized briefly in Table 2 below. Experimental Class A and Control Class A featured virtually identical 33-point scale loss systems, whereby, for purposes of record keeping, teachers divided each school day into 11 half-hour blocks, each comprised of three points. Provided a student demonstrated

acceptable behaviour throughout a given block, he would retain his points for that half-hour. Misbehaviours resulted, depending on severity, in one, two, or three points being taken away from the student's total, in the time block during which the transgression occurred. Both classes using 33-point scales, also maintained records of teacher-imposed time-outs, and hence these were also included in the study as dependent measures.

Experimental Class B utilized a 12-point scale loss system, wherein the day was divided into quarters, each comprised of three points. Appropriate behaviour during a given block, again resulted in a student's retaining his three points for that quarter of the day. Misbehaviours resulted in deductions from the three-point total, varying in degree contingent upon the severity and frequency of the misconduct.

Experimental Class C employed an incident-specific point loss system integrated with a point gain program. There were no 'ceiling' levels for either system, meaning students could lose or gain any number of points in a given day, dependent upon the quality of their classroom behaviour. With respect to the point loss program, the teacher had assigned negative point values to those misbehaviours most commonly demonstrated in the class. When a specific transgression occurred (for instance, 'arguing'), the teacher or classroom aide recorded this instance on the point chart for the student in question, also noting the degree of point loss associated with that misbehaviour (in this case, -10). Point gain was contingent upon performance of certain teacher-specified behaviours, which varied as a function of the types of assignments and activities taking place on a given day. The teacher and classroom aide maintained records detailing daily point totals as well as cumulative grand totals. These totals could be either positive or negative, and were arrived at by summing the point gain and loss values. A listing of those most

common misbehaviours and their corresponding point loss values can be found in Appendix J1.

An incident-specific form of record-keeping was used in Control Class B, with the teacher and aide documenting the number of times particular misbehaviours occurred for individual students on a given day. A student might, for example, have demonstrated two instances of verbal abuse, one refusal to participate, eight call-outs, and two incidents involving physical aggression, on a particular day. For purposes of greater consistency among the classes in the study, the researcher chose to recode the behavioural frequency data by attaching point loss values to the specific transgressions. Although the values themselves were quite different, this resulted in a system not unlike that applied in Experimental Class C. According to this approach, the example above would be reconstrued as: -3 X 2 instances of verbal abuse, -2 X 1 refusal to participate, -1 X 8 call-outs, and -5 X 2 incidents of physical aggression, resulting in a total of 26 points lost for the hypothetical student in question. Although assignment of point loss values to misbehaviours was somewhat arbitrary, the severity of the various instances of misconduct was reflected in the process. Appendix J2 includes a brief breakdown of the point loss figures the researcher used for purposes of quantifying the different types of misbehaviour.

In addition to use of teacher-maintained behavioural records as an indicator of student behaviour, the researcher had students keep track of their own individual use of the calm carrel intervention, by means of placing a checkmark beside their name on a chart at the carrel each time they chose to take a five-minute session. This data were collected for purposes of determining the extent to which the calm carrel system was used

by students, and in order to allow for the comparison of behavioural improvement or deterioration across students, in relation to their individual use of the carrel.

As mentioned previously, teacher and student surveys were administered at the conclusion of the study in order to provide the researcher with feedback on the calm carrel intervention. These surveys included both a written and numerical component.

Table 2

Summary of Records Maintained for Participating Classes

Group Assignment	Experimental Class A	Experimental Class B	Experimental Class C	Control Class A	Control Class B
Type of Records Maintained	-33-point scale (point loss system) -time-out records were also maintained	-12-point scale (point loss system)	-incident-specific point loss and point gain systems	-33-point scale (point loss system) -time-out records were also maintained	-incident-specific records; converted to point loss system

Chapter IV reports on the results of the calm carrel intervention as it was set out in the above discussion.

Chapter IV

Results

This section of the thesis will present a summary of findings from the calm carrel study. Although under ideal conditions, the study design would have allowed for statistical analyses of the results, this was not a plausible option in this context for several reasons. Firstly, sample sizes were small, owing both to the shortage of participating teachers and the limited number of students enrolled in each of the BLA classrooms. Perhaps more significant, however, was the lack of consistency across classes with respect to the types of point loss systems in place for quantifying behavioural improvement and deterioration. As mentioned in the previous chapter, with the exception of the 33-point scale shared by Experimental Class A and Control Class A, each teacher's system was entirely distinctive. Further, the classes participating in the study were, by necessity, neither randomly selected nor randomly assigned to treatment condition. Finally, face value examination of the data failed to reveal any general trends that would merit validation through the use of statistical tests. As statistical analysis was deemed an impractical prospect, this chapter will comprise a descriptive summary of the collected data. Although representative descriptions of findings are aimed at addressing each of the research questions, it is important to note that as no significant conclusions could be drawn from the results, the findings cannot be seen as supporting the efficacy of the calm carrel intervention.

Research Question 1:

Does having the calm carrel intervention in place in Behaviour and Learning Assistance (BLA) classrooms result in reduced student point loss during the

experimental phase as compared to the baseline period?

By collecting and then summing students' daily point loss values in the three experimental classes, the researcher arrived at composite point loss totals for each group during both the baseline and experimental phases of the study. The average number of points lost daily during each phase was determined by dividing the cumulative point loss sums by the total number of days present for students in each class. Tables 3, 4, and 5, below, provide the composite point loss means for the baseline and experimental phases of the study for each of the three classes using the calm carrel.

Results from Experimental Classes A and B (Tables 3 and 4), indicate that the average number of points lost per day decreased during the intervention phase of the study, implying behavioural improvement during this period. On an individual level, 7 (78%) of the 9 students in Experimental Class A, and 5 (45%) of the 11 students in Experimental Class B, received fewer point deductions during the second phase of the study. The charts detailing the individual student mean point loss values for all participating classes are located in Appendix K.

Table 3

Experimental Class A: Average Point Loss Data Summary

Phase of the Study	Mean Daily Point Loss out of 33	Standard Error	Lower Bound 95% C.I.	Upper Bound 95% C.I.	Standard Deviation	Number of Students
Baseline	4.765	0.914	2.658	6.872	2.741	9
Experimental	4.193	1.080	1.702	6.684	3.241	9

*C.I.=confidence interval

Table 4

Experimental Class B: Average Point Loss Data Summary

Phase of the Study	Mean Daily Point Loss out of 12	Standard Error	Lower Bound 95% C.I.	Upper Bound 95% C.I.	Standard Deviation	Number of Students
Baseline	3.133	0.537	1.936	4.331	1.782	11
Experimental	2.907	0.431	1.946	3.868	1.431	11

Results from Experimental Class C (Table 5) ran counter to those from the other intervention groups, in that point loss increased during the experimental phase of the study, suggesting deterioration in behaviour during this period. Among this group, only 3 (37.5%) of the 8 students experienced fewer point deductions while the carrel intervention was in place.

Table 5

Experimental Class C: Average Point Loss Data Summary

Phase of the Study	Mean Daily Point Loss	Standard Error	Lower Bound 95% C.I.	Upper Bound 95% C.I.	Standard Deviation	Number of Students
Baseline	23.287	3.474	15.072	31.501	9.825	8
Experimental	26.942	3.639	18.337	35.547	10.293	8

In addition to a point loss system, the teacher in Experimental Class C made use of a point gain program to reward displays of desirable behaviour. Data from this system were also compiled by the researcher. As shown in Table 6, the mean point gain values

for the class as a whole decreased during the experimental phase of the study, hence again suggesting behavioural deterioration in comparison to the baseline phase.

Table 6

Experimental Class C: Average Point Gain Data Summary

Phase of the Study	Mean Daily Point Gain	Standard Error	Lower Bound 95% C.I.	Upper Bound 95% C.I.	Standard Deviation	Number of Students
Baseline	31.433	4.320	21.218	41.649	12.220	8
Experimental	25.792	6.022	11.551	40.033	17.034	8

Thus, in attempting to address Research Question 1 without the benefit of statistical analysis, it can only be noted that behavioural improvement in the form of reduced point loss means, was apparent in Experimental Classes A and B during the intervention phase of the study, while opposite effects were observed in Experimental Class C. This cannot, however, be seen to reflect the effectiveness of the calm carrel intervention.

Research Question 2:

Does having the calm carrel intervention in place in BLA classrooms result in fewer teacher-imposed time-outs during the experimental phase as compared to the baseline period?

This question was considered on the basis of time-out records maintained by the teacher of Experimental Class A. In order to arrive at overall means, the researcher summed the teacher-imposed time-outs received by students in the class during each phase of the study, and then divided this by the total number of days the students were in

attendance. The resulting means (Table 7) indicate a reduction in the average number of time-outs assigned to students during the experimental phase of the study.

Table 7

Experimental Class A: Time-Out Data Summary

Phase of the Study	Mean Number of Time-Outs Daily	Standard Error	Lower Bound 95% C.I.	Upper Bound 95% C.I.	Standard Deviation	Number of Students
Baseline	0.713	0.173	0.314	1.113	0.520	9
Experimental	0.628	0.209	0.145	1.111	0.628	9

Research Question 3:

Did those classes using the calm carrel intervention generally report less student point loss (during the experimental phase) than those classes not employing the intervention?

This question can be examined chiefly by consideration of the point loss data collected for Experimental Class A and Control Class A. These groups both featured a 33-point loss scale, making their systems best suited for comparison. The difficulty, however, arose from the fact that, due to non-random sampling, it was impossible to ensure the two classes had similar baseline point loss levels. Either the two teachers employed very different criteria for assignment of point loss penalties, or students' behaviour varied considerably between the two classes from the outset, thus making for widely disparate point loss levels during both the baseline and experimental phases of the study. As can be seen from Table 8, below, students in Experimental Class A experienced much greater point loss throughout the study. Both classes showed a

reduction in mean daily point loss during the second phase of the study, with the actual decrease in Experimental Class A (0.572) being slightly greater than that in Control Class A (0.126). Experimental Class A's second phase point loss average was still substantially higher than Control Class A's baseline phase mean, indicating the extent of the differences between the two groups. This variation cannot be attributed to the calm carrel intervention.

Table 8

Experimental Class A and Control Class A: Point Loss Data Summary

Experimental Class A	Mean Daily Point Loss out of 33	Standard Error	Lower Bound 95% C.I.	Upper Bound 95% C.I.	Standard Deviation	Number of Students
Baseline	4.765	0.914	2.658	6.872	2.741	9
Experimental	4.193	1.080	1.702	6.684	3.241	9
Control Class A	Mean Daily Point Loss out of 33	Standard Error	Lower Bound 95% C.I.	Upper Bound 95% C.I.	Standard Deviation	Number of Students
Baseline	1.358	0.367	0.490	2.227	1.039	8
Experimental	1.232	0.377	0.340	2.123	1.066	8

Based on calculations made from the above chart, it is apparent that the mean point loss in Experimental Class A decreased by 12% during the intervention phase, while the average in Control Class A was reduced by 9.28%. Thus, students in the experimental class experienced a greater actual decrease numerically, while also receiving fewer point detractions in relation to their baseline levels.

Although the other classes utilized quite different point systems, it is useful to compare the percentage of point loss change between the two phases of the study for the students in each group. From the data presented for Experimental Class B in Table 4 above, it can be stated that students experienced a 7.21% mean reduction in point loss during the experimental phase of the study, thus showing less improvement than either Experimental Class A or Control Class A. Calculations based upon Tables 5 and 6, presenting data summaries for Experimental Class C, indicate that students showed an average increase of 13.57% in point loss, and an average decrease of 17.95% in point gain during the intervention as compared to the baseline phase of the study, thus further illustrating this group's unusual results in comparison to all the other classes. Table 9, below, depicts point loss means for Control Class B. The average for this group dropped 22.10% during the second phase of the study, thereby suggesting fairly marked behavioural improvement as compared to students in the other classes. It is again impossible to draw conclusions based upon these results, however, as the point systems varied so significantly.

Table 9

Control Class B: Average Point Loss Data Summary

Phase of the Study	Mean Daily Point Loss	Standard Error	Lower Bound 95% C.I.	Upper Bound 95% C.I.	Standard Deviation	Number of Students
Baseline	10.544	2.308	5.085	16.002	6.530	8
Experimental	8.214	2.380	2.586	13.843	6.733	8

Research Question 4:

Does the experimental class which maintained time-out records generally have fewer teacher-imposed time-outs during the experimental phase of the study than the control class which maintained time-out records?

This question was again examined by means of records kept for Experimental Class A and Control Class A. Teachers in both classes employed similar forms of isolation time-out. Again, as shown in Table 10 below, it should be noted that the two classes varied considerably on initial baseline time-out levels, thus implying some inherent difference between the two classes, either with respect to student behaviour or teacher criteria for time-out assignment. Both classes showed a reduction in the average number of time-outs during the second phase of the study, with the decrease being only slightly greater for Experimental Class A (0.085) than for Control Class A (0.039).

Table 10

Experimental Class A and Control Class A: Time-Outs Data Summary

Experimental Class A	Mean Number of Time-Outs Daily	Standard Error	Lower Bound 95% C.I.	Upper Bound 95% C.I.	Standard Deviation	Number of Students
Baseline	0.713	0.173	0.314	1.113	0.520	9
Experimental	0.628	0.209	0.145	1.111	0.628	9
Control Class A	Mean Number of Time-Outs Daily	Standard Error	Lower Bound 95% C.I.	Upper Bound 95% C.I.	Standard Deviation	Number of Students
Baseline	0.151	0.051	0.030	0.271	0.144	8
Experimental	0.112	0.044	0.009	0.215	0.123	8

Research Question 5:

Does there appear to be reduced point loss during the experimental phase of the study for those students who self-reported use of the calm carrel intervention?

In order to examine this question, the researcher determined the mean point loss values for the experimental classes during each phase of the study, including in the calculations only those students (23 of the total 28) who self-reported using the calm carrel. The charts summarizing this data are included in Appendix L.

The mean point loss values for those students who made use of the carrel differed only slightly from the whole-class averages. In Experimental Classes A and B, the point loss means for carrel-users were marginally less than the entire group averages for both the baseline and intervention phases of the study. In Experimental Class C, however, point loss means were greater for the subset of carrel-users than for the entire class grouping, during both the baseline and experimental phase. As with the other research questions, conclusions cannot be drawn on the basis of this data, as it is not possible to determine whether differences are statistically significant.

Research Question 6:

Does there appear to be any relationship between individual students' use of the calm carrel and their respective point loss on the specific days they used the carrel?

In considering this question, the researcher employed the calm carrel record charts to determine the days on which individual students in the experimental classes made use of the intervention. By calculating the average point loss for each student during the two phases of the study, it was possible to determine whether a given child had lost more or

less points on the days he spent time at the carrel. The individual student carrel use summary data are included in Appendix M.

In broadly summarizing this approach to considering the data, it appears that students in Experimental Classes A and B had less point loss compared to their individual point loss averages on, respectively, 61.5% and 54.7% of the days during which the calm carrel was used. Students in Experimental Class C displayed lower point loss values on only 21.9% of the days they used the carrel. Although, these values cannot be taken to reflect the utility of the calm carrel, it is worthwhile noting that, more often than not, students in Experimental Classes A and B behaved better than average on those days they made use of the intervention.

Research Question 7:

Is there a relationship between individual students' preference for the calm carrel intervention (determined from post-intervention student surveys) and the extent of their point loss during the experimental phase of the study?

Of the 23 students who self-reported use of the calm carrel during the study, 18 chose to complete post-intervention surveys to provide feedback on the intervention. Table 11, below, provides a summary of the students' responses to the multiple choice portion of this survey. Responses to the written questions on the survey appear, by student, in Appendix M together with the carrel use summary data. Students' surveys on the whole indicated a largely positive response to the carrel intervention, with 31% of their responses falling in the 'very good' category, 21% in the 'good' category, 15% in the 'average' category, 15% in the 'fair' category, and 18% in the 'bad' category. In

terms of the specific calm carrel components, the relaxation exercises appeared to fare worse than the visualization narratives and musical selections.

Table 11

Summary of Students' Responses to the Multiple Choice Portion of the Calm Carrel Survey

Question	Very Good	Good	Average	Fair	Bad
Overall, the calm carrel was:	8	6	0	3	1
The music was:	8	1	2	4	3
The relaxation exercises were:	1	3	6	3	5
The visualizations were:	5	5	3	1	4

* Students answered these questions in response to the prompt 'Please fill in the stars to show if you thought the calm carrel was a good idea for your classroom.' The entirety of the blank survey form can be found in Appendix II.

To summarize a different way, also taking into account students' comments, an examination of the individual surveys indicated that 12 of the 18 students rated the carrel in a chiefly positive manner, three rated it as mediocre on the whole, and three rated it poorly in all respects. Combining this information with point data records, it is apparent that seven of the 23 students who used the carrel, both improved behaviourally (i.e. lost fewer points during the experimental phase), and also rated the carrel highly. In other words, 30% of the students who used the carrel appeared to enjoy it, while also improving behaviourally over the course of the study. A word of caution is in order,

however, as the behavioural improvement can in no way be attributed to the students' use of the carrel.

In addition to eliciting students' opinions on the calm carrel program, the researcher distributed a total of six surveys to the experimental BLA class teachers and aides. Their written feedback is transcribed in Appendix N, and their responses to the multiple choice survey questions appear below, in Table 12.

Table 12

Summary of Teachers' Responses to the Multiple Choice Portion of the Calm Carrel

Survey

Question	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The carrel was a useful option for students...	1	5	0	0	0
The carrel fit well my with existing approach to management...	2	4	0	0	0
Students used the carrel appropriately...	1	4	1	0	0
I would consider implementing a similar strategy myself...	0	3	3	0	0

*The entirety of the blank survey form can be found in Appendix I2.

Although teacher comments will be discussed further in drawing conclusions about the study in the final chapter, it is worth noting here that the majority of teacher responses fell in the 'agree' and 'strongly agree' categories, indicating the educators' interest in and acceptance of the calm carrel intervention.

In summarizing the results of the study, it can be stated that among the 28 students in the three experimental classrooms, 23 (82%) used the calm carrel at least once during the course of the study. Of these, 12 students (52%) demonstrated behavioural improvement during the experimental as compared to the baseline phase of the study, evidenced by a reduction in point loss during this second phase. The remaining 11 students (48%) who used the carrel, did not improve behaviourally. Of the 28 students in total, 17 (60%) improved behaviourally over the course of the study. Thus, 70% of the students who improved behaviourally, also used the calm carrel at least once. However, due to the fact that a) none of the findings can be considered statistically significant; b) one of the experimental groups showed more substantial point loss increases than any other class; and c) the control classes displayed similar, and in one case, greater reductions to point loss means during the second phase of the study, it must be concluded that the calm carrel intervention had no measurable impact upon student behaviour. The positive responses on the part of students and teachers as evidenced by the calm carrel surveys, coupled with students' continued use of the carrel throughout the study, suggests the calm carrel intervention may have merits that could be better tapped following revisions to the research design in a future study. This possibility will be discussed further in the remaining chapter.

Chapter V

Discussion, Conclusions, and Directions for Future Study

In this chapter, the researcher will attempt to account for the nature of the intervention's results and to draw some general conclusions based on the outcomes of the study. As it was not possible to conduct statistical analyses of the results, discussion in this chapter will be necessarily tentative, and will be aimed chiefly at providing suggestions for improving upon the basic framework developed in this study.

Of greatest importance in interpreting the data garnered from the project, is the task of reconciling the apparent ineffectiveness of the calm carrel in promoting positive behavioural change evidenced by reduced point loss, with the largely affirmative assessments of the intervention provided by both teachers and students at the project's termination. It must be asked, in other words, why the carrel appeared to have no measurable impact on student behaviour patterns, while nonetheless being regarded as a worthwhile and valuable adjunct to classroom management practices by the educators and children involved. Several possible explanations might account for this contradiction.

Firstly, it may be the case that the key dependent variable, student point loss, was an inadequate indicator of the types of behavioural concerns being targeted for improvement by the calm carrel. Point penalties were assigned for a considerable number of behavioural transgressions, some of a fairly inconsequential nature, including verbal call-outs and mildly off-task behaviour. Perhaps it was wrong to expect that these more minor task-related behaviour difficulties would show marked improvement through use of the carrel. Students, after all, were supposedly electing to go to the carrel mainly

when they felt frustrated, angry, or otherwise upset during class. Although certainly all point deductions can be thought to represent ‘misbehaviour’ from the teacher’s perspective, it is probable that, even were the carrel found to be an effective intervention tool, only certain selected behaviours could be expected to change as a function of its use. This implies that the adoption of a narrower measure of those specific behaviours related to students’ reasons for using the carrel, might have served as a more accurate gauge of the effectiveness of the intervention.

One might question, however, why even data detailing the extent of teacher-imposed time-outs in Experimental Class A, failed to show any notable change during the intervention as compared to the baseline phase of the study. Although the assignment of time-outs can be thought to represent more significant transgressions from the teacher’s perspective, perhaps these too are an invalid indicator of improvement in the types of behaviours potentially influenced by carrel use. As the researcher was unable to access anecdotal information describing the reasons behind time-out assignments, it is unclear exactly which criteria were employed for differentiating between those behaviours leading to a point loss and those behaviours necessitating a time-out. This lack of clarity surrounding the particular behaviours assessed by the global point loss and time-out measures, suggests again that a more focused and direct approach to the evaluation of pre-selected behaviours may have resulted in a much more reliable estimate of the program’s effectiveness.

Further to this end, it is worth noting once more the extent of the differences between the point systems utilized in each of the experimental classes. Not only did each teacher employ a different numerical scale for point loss, each subscribed to different,

largely informal and unspecified, criteria for point deduction. Taken together, this made for widely variant results, thus rendering comparison across classes impossible, and further obscuring the effectiveness of the calm carrel intervention, owing to the strong possibility that the point systems were all measuring different behaviours according to dissimilar standards. The creation of a simple and uniform approach to assessing misbehaviour, intended for implementation across classes, could prove helpful in overcoming this limitation in a future study. This could best take the form of a record sheet specifying a limited number of concrete and objective behaviours in a checklist format, for teachers to complete on each student throughout the study. Replacing the point loss and time-out dependent variables with such a standardized system of measurement should allow for better comparison across classes, while also affording a more exact and definitive indicant of the frequency with which certain key target behaviours occur during both the baseline and experimental phases of the study.

Basing the dependent variable on data recorded by use of this more consistent and prescriptive measurement device, would ideally also promote greater objectivity in teachers' assessments of student behaviour. The teacher of Experimental Class C, for example, acknowledged to the researcher that standards governing point loss in that class likely became more stringent towards the end of the study, as expectations were higher than earlier in the year. By replacing teacher-derived point systems with simple misbehaviour frequency count charts as the study's dependent variable, the results should be more indicative of the actual behaviour of students, than of teachers' expectations and tolerance levels over the course of the school term.

Along these lines, it also seems imperative that a future study of this nature be conducted over a considerably longer time period, thereby hopefully minimizing the influence of those extraneous factors that may have impacted upon results during the last portion of the school year. Although the roughly eight-week phases of this study were useful for getting a sense of how the intervention could be applied within BLA class contexts, a complete evaluation of the merit of the calm carrel would have been a more likely prospect if the researcher had begun baseline measurements early in the school year, and implemented the intervention itself by January, as opposed to April. In a subsequent study, it would also be advisable to recruit a larger number of participating classes. This larger sample size, in combination with the use of a standardized form of behavioural measurement across classes, should allow for statistical analyses of the study's results.

While a realization of the improvements described above would ideally facilitate a more valid assessment of the calm carrel's effectiveness, the fact remains that perhaps factors within the intervention itself, rather than the measures of its success, were at fault for the study's less than impressive results. A few modifications to the design of the intervention might prove useful in a future study. Firstly, it may be that the initial student training sessions would have been more valuable, had they been delivered by the classroom teacher him/herself. Although responses to the lessons were generally positive, involving teachers more directly at this early stage might well have fostered their taking a more significant role in ensuring the intervention was used to good effect, and in emphasizing the potential merits of the program with their students. This seems a particularly important goal as well, insofar as the study context was intended to emulate

typical BLA class conditions, such that the calm carrel program could eventually be adopted by actual classroom teachers, an objective garnering support from the ‘Level 1 research’ concept discussed by Moore (1999). In a follow-up study then, the researcher would plan to in-service teachers on the use of the calm carrel procedure, and allow them to provide the training to their classes independently. This would also permit teachers to adapt the general outline of the training sessions to meet the needs of their students in particular. The teacher in Experimental Class A, for instance, commented following the study that additional focus on helping students recognize the signs of frustration would have been helpful during the introductory lessons. If teachers were to conduct the sessions themselves, they could emphasize sub-topics felt to be especially important for their own students.

An additional adjustment to the current calm carrel model could center upon the inclusion of instructional cognitive problem-solving strategies on the CDs and poster displays available to students at the carrel. Although the value of visualization, breathing, and relaxation exercises for purposes of stress reduction with children, is supported in the literature (Henderson & Kelbey, 1992), and although the existing CD track choices and musical selections were generally well-received by the children, it may have been helpful to add a more prescriptive social-cognitive component, insofar as this might have had a farther-reaching impact on students’ behaviours away from the carrel. Indeed, there are a number of useful instructional sequences that could be employed towards this end, including Kendall’s (1992) ‘stop and think’ procedure. Perhaps providing students with cognitive problem solving strategies designed for easy use both at the carrel and in the context of the regular class environment, would lead to greater

behavioural improvement in the long term. Attempting to involve teachers in incorporating these self-management techniques into the framework of social skills lessons taught in the class, would further serve as a means of strengthening the body of strategies children could employ to control inappropriate behaviour.

Even after modifying the dependent variable and reworking the set-up of the calm carrel itself, it may be the case that the intervention nonetheless still proves somewhat fruitless in effecting behavioural change. The teacher of Experimental Class A, while very positive about the intervention's potential, commented on the post-study survey, "I often feel my students enjoy the opportunity to go into timeout and act up; as a result the carrel didn't do what they wanted...they prefer the opportunity to perform as opposed to sitting quiet." This could certainly be true to the nature of many children with behavioural difficulties. All the same, the lack of noticeable improvement as a function of the calm carrel program, should not be taken to imply that this type of intervention holds no promise for the BLA classroom.

Regardless of students' particular behavioural challenges, the ultimate goal of BLA programs needs to center upon facilitating children's reintegration into regular class contexts. While the traditional curriculum of control, characteristic of so many classes for children with EBD, may be somewhat effective in keeping students 'in line' for the short-term, it does little if anything to teach more appropriate replacement behaviours, and to encourage students to take responsibility for their actions. The calm carrel attempts to compensate for the shortcomings of such teacher-directed methods, and thus, though apparently an imperfect system at first trial, it must not be dismissed out of hand. Rather, the encouragement received from teachers and students alike, suggests it merits

careful reexamination. More focused, intervention-specific dependent variables measured for a considerably larger sample of students over a longer period of time, coupled with greater teacher involvement in a calm carrel set-up providing a greater array of strategies, should serve as a useful framework for a follow-up study.

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Appendix A1: Cover Letter to Principals in Participating Schools

January 10, 2003

Dear Principal,

On January 7th, you received a fax from Jane Kinoshita, Research Liason for Edmonton Public Schools, regarding a research request for my thesis project, entitled 'An Alternative to Teacher-Imposed Time-Outs: The Reflection Session'. This study has been approved by the school district, and I am now in the process of contacting those schools with division two Behaviour and Learning Assistance classrooms in order to determine how many teachers might be interested in participating. I am seeking both experimental and control condition classrooms.

In this envelope I have enclosed information letters describing in detail what participation entails for both control and experimental classrooms. I would very much appreciate if your BLA classroom teacher(s) could sign both the attached forms, indicating whether or not they are interested in participating in either of the study conditions, and fax them back to me at 459-6286. I will then be in contact with those BLA class teachers who have expressed interest, to arrange for a time to meet with them to answer any questions and to provide them with parental consent forms. Participation as a class in the experimental group would be contingent upon receipt of a sufficient number of signed parental consent forms.

Thank you very much for your time and attention to my request.

Yours sincerely,

Kent Cameron

Appendix A2: Letter to the Teachers of the Experimental Classes

January, 10th 2003

Dear Teacher,

I am a graduate student at the University of Alberta currently completing my M.Ed. degree in the area of Special Education. I write to request your participation in a study I am undertaking this year which will form the basis for my thesis. If you are maintaining documentation of student time-outs and/or a point system or token economy in your Behaviour and Learning Assistance classroom this year, you may find my project to be of some interest. I propose to implement a very basic 'reflection session' program in three EPSB BLA classrooms, and to examine its effects on the frequency of teacher-imposed time-outs and the number of points or tokens lost by students.

Essentially, a reflection session could be described as a self-imposed and thus voluntary time-away from the class, taken at a carrel at the back of the room by students who are feeling frustrated or otherwise off-task during class time. It is intended to serve as a preventative measure, with the logic being that if students are able to foresee difficulties by taking responsibility for their own behaviour, they may be able to regain control over their emotions and thus avoid being assigned a time-out or point/token deduction by the teacher. With the reflection session program, each student would be permitted to spend a maximum of three, five-minute sessions at the carrel daily. While at the carrel they would have the option of listening to a pre-selected relaxing musical excerpt or narrative passage, practicing specified anger management strategies, or simply resting in silence until a five-minute timer indicates they should return to the group. A key component of the reflection session system is its non-punitive nature. Students who choose to make use of the program will not be required to make up for time missed while taking a reflection session, nor will they lose points or tokens as a result of their time away from class work.

The timeline for the study will run as follows. I will collect baseline data on the frequency of teacher-imposed time-outs and/or point deductions during the months of February and March, 2003, by means of a monthly visit to your classroom. In the first week after Spring Break, I will present to your students three half-hour sessions (on consecutive days) instructing them in the use of the reflection session system, and providing them with strategies for relaxation and anger-management which could be used during the sessions. You will have opportunity to examine the outlines for these lessons at least two weeks in advance of the training sessions being conducted. During April, May, and the first week of June, students in your classroom will be able to make use of the reflection session program. Throughout this period, I will continue to collect data, this time on a biweekly basis, on the frequency of teacher-imposed time-outs and/or point deductions, as well as the frequency of student-imposed reflection sessions (which will be monitored by the students themselves). In particular, I will be examining the data to determine whether the use of the reflection session program has an impact on the extent of teacher-imposed time-outs and/or point deductions. During the entirety of the study you are encouraged to continue to use your usual classroom disciplinary procedures, being neither more lenient nor more stringent while the reflection session system is in place. The reflection session system is merely intended to supplement your current approach to behavioural management.

There are several likely benefits your students may derive from participation in this research project. Chiefly, it is hoped that students will learn to assume greater responsibility for their own behaviour, thus taking some of the onus for disciplinary action off of yourself. This also places students in a better position for eventual inclusion within a regular classroom setting. It is probable also that, by means of the training sessions and the emphasis on anger management, the students will develop an increased awareness of their own behavioural triggers and will be able to apply relaxation and self-control strategies which may in turn extend to contexts outside the reflection session program.

This research study has been designed in keeping with the University of Alberta Standards for the Protection of Human Research Participants. As such, the anonymity of all collected data (namely teacher records of student time-out use and point deductions) will be assured by blacking out students' names prior to photocopying records for use in further analysis. All raw data (already rendered anonymous) will be

kept secure for a period of five years following the study, before being destroyed by the researcher. Should you wish, a copy of the study's results will gladly be made available to you.

An integral part of the University of Alberta Standards is the attainment of free and informed consent on the part of research participants. In this letter I have attempted to provide you with all information that might conceivably influence your decision to take part in the study. If any clarifications are needed please feel free to contact me at your convenience.

In agreeing to participate in this research project, it is important you understand that you have the right to withdraw from the study at any juncture without prejudice or penalty. Should you choose to opt out of the study, you may request that any data collected from your class be removed from the database and excluded from the study. Throughout the study and in the subsequent reporting of the data in the thesis publication, the identity of yourself, your students, and your school will be kept strictly confidential. In this letter I have informed you of several benefits I believe might accrue from your participation in the project. I do not foresee any drawbacks, aside from the need for a minimal time commitment on your part, following from your consenting to take part in this project.

Throughout the course of the study, should you have any questions or concerns, you may contact me by phone at 718-3406 (message box) or 459-5483 (residence). I can also be reached by e-mail at "kcameron@ualberta.ca". My advisor and thesis supervisor at the University of Alberta is Dr. Jack Goldberg. He may be contacted at his office at 492-3738, or by e-mail at "jack.goldberg@ualberta.ca". The Associate Chair of the Department of Educational Psychology is Dr. Rob Short. He may be contacted at his office at 492-5897, or by e-mail at "rob.short@ualberta.ca". This study has been reviewed and approved by the Research Ethics Board of the Faculties of Education and Extension at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Chair of the Research Ethics Board at (780) 492-3751.

I very much appreciate your considering the merits of participating in my research and hope I'll have the opportunity to work with you during my study.

Please take the time to fill out the following consent slip and fax it to me at 459-6286.

Sincerely,

Kent Cameron

I, _____, have read the information letter regarding the reflection session study to be conducted by Kent Cameron and:

____ offer my free and informed consent for myself and my students to participate in the study from February through to the end of the first week of June, 2003

____ do not wish to participate in the study

Signature _____ Date _____

January 10, 2003

Appendix A3: Letter to the Teachers of the Control Classes

Dear Teacher,

I am currently completing my M.Ed. degree at the University of Alberta in Special Education. I write to request the participation of your class as a control group in a study I am undertaking this year which will form the basis for my thesis. If you are maintaining documentation of student time-outs and/or a point system or token economy in your Behaviour and Learning Assistance classroom this year, I would very much appreciate your assistance.

I am planning to implement a 'reflection session' program in three EPSB BLA classrooms, and to examine its effects on the frequency of teacher-imposed time-outs and the number of points or tokens lost by students. The reflection session is a self-imposed and voluntary time-away from the class, taken at a carrel in the classroom by students who are feeling frustrated or off-task during class time. To evaluate the effectiveness of the reflection session as an approach to behavioural management, I will be including three control group classes in the study. For indicators of student behavior, I plan to compare the frequency of teacher-imposed time-outs and point/token deductions in the control group classes, with those of the experimental group classes. I will be collecting data from February through to the end of the first week of June, 2003. If you agree to participate in the study, I will make monthly visits to your classroom during this time period. The only information I require is your documentation of the frequency of time-out assignments and the extent of point and/or token deductions for individual students.

The anonymity of all collected data will be assured by blacking out students' names prior to photocopying records for use in further analysis. All raw data (already rendered anonymous) will be kept secure for a period of five years following the study, before being destroyed by the researcher. If you wish, a copy of the study's results will gladly be made available to you. Should you agree to participate, you have the right to withdraw from the study at any juncture without prejudice or penalty. If you opt out of the study, you may request that data collected from your class be excluded from the study. Throughout the study and in the subsequent reporting of the data in the thesis publication, the identity of yourself, your students, and your school will be kept strictly confidential. If you have any questions or concerns during the study, please contact me at 718-3406 (message box) or 459-5483 (residence). I can also be reached by e-mail at "kcameron@ualberta.ca". My thesis supervisor at the University of Alberta is Dr. Jack Goldberg. He may be contacted at his office at 492-3738. The Associate Chair of the Department of Educational Psychology is Dr. Rob Short. He may be contacted at his office at 492-5897. This study has been reviewed and approved by the Research Ethics Board of the Faculties of Education and Extension at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Chair of the Research Ethics Board at (780) 492-3751. I very much appreciate your considering the merits of participating in my research and hope I'll have the opportunity to work with you during my study. Please take the time to fill out the following consent slip and fax it to me at 459-6286.

Sincerely,

Kent Cameron

I, _____, have read the information letter regarding the reflection session study to be conducted by Kent Cameron and:

____ offer my free and informed consent for my students to participate as a control group in the study from February through to the end of the first week of June, 2003

____ do not wish for my students to participate in the study

Signature _____ Date _____

January 10, 2003

Appendix A4: Letter to the Parents of Students in the Experimental Classes

Dear Parent/Guardian,

I am working on my Master's degree in the area of Special Education at the University of Alberta. I write to request your child's participation in a study I am conducting for my thesis. I have designed a program called the "reflection session system" for use in Edmonton Public Schools' Behaviour and Learning Assistance classrooms. With this program, when a child feels frustrated or upset during class time, he or she would have the option of taking a five minute reflection session at a carrel at the back of the room. At the carrel, the child could choose to listen to a relaxing musical or narrative excerpt, to practice anger management strategies, or to rest quietly before rejoining the other students. Each child in the class would be allowed up to three reflection sessions per day. The program is intended to provide students with an opportunity to take greater responsibility for their own behaviour. Whether your child chooses to take advantage of the reflection session program is completely up to him or her. The reflection session is non-punitive, as students are not required to make up time spent at the reflection carrel, nor are they expected to give up points/tokens in exchange for their time away from class work.

I will work with your child's class from February through to the end of the first week of June, 2003. In February and March, I will simply make use of existing teacher records to keep track of the children's use of the time-out room, as well as the number of points and/or tokens gained and lost in the classroom point system or token economy. During the first week after Spring Break in April, I will present three-half hour training sessions to the students in order to teach them about the reflection session program, and to provide them with anger-management and relaxation strategies which might be useful. Throughout April, May, and the first week of June, the students will be able to take part in the reflection session program. During this period, I will collect information on time-out room use, points and/or tokens gained and lost, and the number of reflection sessions students use. I am interested in whether the reflection session program affects the number of points/tokens lost and the number of time-outs assigned in the classroom.

If you allow your child to take part in this research, you have the right to withdraw him or her from the study at any point without penalty. If you withdraw your child, you may request that information collected about him or her be removed from the database. Throughout the study and within my thesis, the identity of your child and his or her school will be kept confidential. All data collected about your child will be made anonymous by removing his or her name and other identifying information. This study has been reviewed and approved by the Research Ethics Board of the Faculties of Education and Extension at the U. of A. For questions regarding participant rights and ethical conduct of research, please contact the Chair of the Research Ethics Board at 492-3751. Should you have any questions, please contact me at 718-3406 (message box), or by e-mail at "kcameron@ualberta.ca". My supervisor at the U. of A. is Dr. Jack Goldberg. He may be contacted at 492-3738. Thank you in advance for considering my research. Please take the time to complete the following information and return it to your child's classroom teacher.

Sincerely,

Kent Cameron

I, _____, have read the information letter about the reflection session study to be conducted by Kent Cameron and:

____ offer my free and informed consent for my child to participate in the study from February through to the end of the first week of June, 2003

____ do not wish my child to participate in the study

Signature _____ Date _____

Appendix A5: Letter to the Parents of Students in the Control Classes

January 13th, 2003

Dear Parent/Guardian,

My name is Kent Cameron, and I am a graduate student at the University of Alberta. Your child's class has been selected to participate as a control group in a study I am conducting on the use of self-management in schools. The control group is being included simply to help me get an idea of the use of time-out and point systems in a typical learning and behaviour assistance class. From February through June, I will be using routine records kept by the classroom teacher to determine the number of time-outs given and points lost or gained by students each month. The information being collected will be treated with complete anonymity. There will be no way of identifying individual students, teachers, or schools when the results are reported. If you should have any questions about this project, please feel free to contact me by e-mail at kcameron@ualberta.ca, or by leaving a message at 718-3406.

Yours sincerely,

Kent Cameron

Appendix B

Outline for Calm Carrel Training Sessions Conducted with Experimental Classes

Session 1

- Introduction: general purpose of the program (*a way to help you stay calm and control your behaviour even when you are feeling upset/angry/frustrated in class*)
- Discuss: *what kinds of things make you feel upset/angry/frustrated in class?*
- Explain: *nothing can actually **make** you behave in an angry way; **you** are the one who can choose how you will feel*
- Example: *imagine someone bumps into you from behind and you drop your lunch all over the floor (discuss: how do you feel at first?; what would you do?); then imagine now that you turn around and notice it's a girl in grade two who is new to the school and blind (discuss: how do you feel **now**?; what would you do now?); in this example, angry feelings changed because you **thought** about what happened in a different way*
- this shows that it's the way you **think** about a situation that makes you angry (not the situation itself): you can control whether you act in an angry or upset way about things that happen at school (in the strategy we'll be talking about, you'll be in charge of managing your own behaviour); this discussion should help to highlight for the students the important role that they play in the determination of their own behavioural responses to external stressors*
- Discuss: *what types of things do you do **now** to keep yourself from losing control or getting upset when things aren't going your way at school? --brainstorm ideas*
- Suggest: *one good way to keep calm is to **think about something else or to take a break for a few minutes** (discuss: why would this help us to calm down?)*

-Introduce the 'calm carrel' as a means of doing this; briefly summarize its purpose (*a place you can go when you're feeling upset, to relax and calm down before going back to work*)

-Briefly highlight the basics: can be used up to three times a day, for five minutes each time; **you** will choose when to go there, because **you** know when you're feeling upset or angry)

-we're going to try doing a few strategies that you could use at the reflection carrel to help yourself relax so that you'll feel calm when you go back to your desk afterwards

- Simple Physical Exercises for stress reduction (can be done from seated position):

-first introduce: *why might exercises help us to feel less upset? When muscles in the body are relaxed, it is impossible to feel really upset/angry/worried/frustrated*; highlight the key words: *tension* and *relaxation* (define and demonstrate: *am I tense or relaxed?*)

-demonstrate and practice exercises, talking students through the process:

a) tense muscles in both hands (*make both hands into tight fists...hold...now relax them...feel the difference between the tension and the relaxation (calm)*)

b) tense muscles in the jaw (*bite tightly like this...hold...now relax*)

c) tense shoulder muscles (*bring your shoulders up towards your ears as high as you can...hold...now relax*)

d) tense muscles around the eyes (*hold your eyes shut tight...now relax.*)

e) tense neck muscles (*bring your chin right down to your chest and hold it...now relax*)

f) tense foot/ankle muscles (*keeping both heels on the floor, point your toes up as high as you can towards the ceiling...hold...now relax*)

g) tense back muscles (*bring your elbows back as far as you can...hold...now relax*)

-Remind students: *these are all different muscle groups you can tense and relax at the carrel*

-Discuss: *how did it feel? Did you notice a big difference between tension and relaxation? Why would it be useful to tense **and** relax the muscles when you're feeling upset or angry? (because there is a bigger difference between the feelings of tension and relaxation than just relaxation on its own; muscles relax more when they have been tensed first)*

-Remind students: *it's impossible to be upset when the body is totally relaxed*

-Introduce deep breathing as *another way to help you relax at the calm carrel; when we're upset, we breathe quicker and not as deeply; deep breathing helps us to feel calmer and more relaxed (in both our muscles and our mind); so try to slow down and breathe deeper when you're feeling upset*

-Demonstrate: *take a slow, deep breath in through the nose and out slowly through the mouth; allow time for students to try; discuss: do you see how deep breathing can help you to feel calmer and more relaxed?*

-Review the first training session and conclude with a preview of the second lesson

-Informal homework: *tonight try to think about other things you do to keep yourself calm when you're feeling upset (to share in session two)*

Session 2

-Review initial session specifics; request student input to ensure understanding of what has been discussed (questioning: e.g. *who controls whether you are angry or not? you're the one who has control over how you behave and how you react; so it's important that*

you have ways to keep yourself calm when you start to feel upset/angry (because everyone does feel upset and angry sometimes)

-Follow-up on informal homework: *did anyone think of any other things you do now or could do to keep yourself calm instead of getting angry or upset?*; allow discussion and provide validation of students' ideas

-Review: *one way to keep calm is to take a break (the calm carrel)*; we talked about a few strategies you could use at the carrel; request students' help in reviewing these (relaxation exercises, deep breathing)

-Ask: *What were some of the exercises we did yesterday?* Review by practicing these again (fist, shoulders, eyes, neck, jaws, back, toes)

-Introduce new exercises to try (demonstrate and allow time to practice each of these):

a) Right arm: *Stretch your right arm straight out in front of you and point your fingers up at the ceiling...hold this, feel the tension in your wrist and fingers...and relax*

b) Left arm: same as per above (*feel the difference between the tension and relaxation*)

c) Right arm: *Stretch your right arm straight out in front of you; take the back of your hand and bring it up to touch your shoulder...feel the tension in your arm, wrist, and elbow, as you hold this...and now relax*

d) Left arm: same as per above

e) Feet: *Bring both your heels up in the air, but keep the toes of both feet touching the ground...hold this position...and now relax*

f) Mouth: *Put your lips together as tightly as possible (like you've just tasted a very sour lemon)...hold them together feeling the tension...and relax*

g) Cheeks: *Open your mouth as wide as you possible can (like doing a silent yell)...hold it this way, feeling the tension in your cheeks...and now relax*

-Discussion: *how did the relaxation feel today? What did you think about the difference between feeling tense and relaxed? Would you notice this difference more if you were feeling stressed/upset? When you're upset your body is already tense and your muscles are already tight, so these exercises are especially useful then.*

-Practice simple breathing exercises again, this time guiding students to breathe in to the count of approximately 6 seconds, hold it for the count of about 4 seconds, and breathe out to the count of 6 seconds (e.g. by counting *one one-thousand, two one-thousand, ...*)

-Provide more detailed information about the specifics of the calm carrel: first reviewing: *each person in the class can use the carrel up to three times in a day, for five minutes each time; you choose when you want to go, as long as no one is using the carrel at that time; you may want to go to the carrel when you feel upset, frustrated, or angry (think back to your examples from yesterday of times when you felt upset or angry in class; these are times when it might be helpful to take a break at the calm carrel)*

-New information re. the calm carrel: *there will be a countdown timer set to 5 minutes (counts down from 5 to 0 minutes) to keep track of when you need to return to your desk after using the calm carrel; demonstrate the timer to students (explain: press the button when you get to the carrel; press it again after it beeps once 5 minutes is up, to stop the beeping; then press it once more to reset it to 5 minutes for the next person (i.e. press it once to start it and twice when it beeps at the end))*

-Discuss other things that will be at the calm carrel: *a CD player walkman (show this to students) hooked up to a set of headphones; there will be a CD with relaxation exercises*

and relaxing music on it (in the CD player) (more information tomorrow); also, there will be pictures of relaxation exercises posted at the carrel to remind you of which ones you can try (tensing and relaxing) and a reminder about the deep breathing

-Review: while you're at the carrel, you can listen to music, try relaxation exercises, do deep breathing, or just rest for your five minute session

-Discuss four main rules of the calm carrel:

1) Follow normal classroom rules while you're at (and on your way to and from) the carrel (class rules don't change)

2) Don't bring anything to the carrel with you (toy, snack, your own music) because everything you need is already at the carrel; also, don't bring work with you because you won't have to make up for the time you take at the carrel

3) Remember to start the timer right when you get to the carrel, and to leave the carrel as soon as the timer beeps after 5 minutes

4) Remember to put a checkmark beside your name under the right day on the record chart (show this to the students) on the carrel, each time you take a 5 minute session (to keep track of how many times you use it)

-Introduce the idea of visualization as another strategy you could use at the carrel;

explain: imagining for a few minutes about a time/place/event that made you very happy can be a good way of helping you feel calm and relaxed; re-emphasize that it is

impossible to feel angry & upset when you are thinking relaxed and happy thoughts;

encourage students to try visualizing a person/place/time/situation/pet/hobby that made them feel happy (provide example) (ask what is one thing you could visualize that could

help you feel relaxed and calm at the carrel?) and suggest that they try this when at the

calm carrel in the future; ask if any students want to share their relaxing visualizations (happy memories); explain: *everyone will have different things to picture in their head that might help them to relax (e.g remembering a day at the waterpark might be a memory that helps you relax, but it might make someone else nervous to think about that if they don't like to swim)*

-At the conclusion of the session, allow students to practice using a sample digital timer set to 3 seconds, and respond to any questions students have regarding timer usage

-Informal homework: *tonight, think a bit more about something you could visualize when you're at the calm carrel*

-Review the second session briefly and preview the final lesson

Session 3

-Review specifics of previous two sessions; ask for students to help summarize what has been discussed

-*When would you want to use the calm carrel?* (when feeling upset, angry, frustrated, distracted); *you can choose when, as long as no one is at the carrel and you are using it properly when you're there; you're the one who knows best when you're feeling upset and need to calm down; how do you know when you're starting to feel upset?*

-Discuss body cues: *most of the time before you start to get really upset, your body gives you a sign/signal? This is a good way of knowing it's time to take a short break to calm down before going back to work; everyone has different signals that they're upset/angry (provide examples: clench fists, heart pounds fast, headache, face feels really warm, lump in throat, stomach ache, breathing really fast); Ask: what are your signals? How*

*does your body tell you that you need to relax? (encourage students to share their signals); these are good times to take a break at the calm carrel; now we know **when** you might use the carrel*

*-Once you've noticed you're upset and you've gone to the carrel, what are some things you could do during your 5 minutes there? (allow student input); a) the exercises we practiced before (tensing and relaxing) (you can also use the posted pictures and/or follow along with the CD when doing these exercises); b) deep breathing (allow students to practice breathing in through their noses to the count of 6, holding for the count of 4, and breathing out through their mouths to the count of 6); describe a way students can tell if they're breathing deeply or not (have them place both their hands on their stomach so that their fingers are just touching each other; explain that when they breathe in, their fingers should move apart if they are breathing deeply because that part of their stomach should be expanding); c) listening to music on the CD player; d) just resting/relaxing; e) using visualization (either making up their own scenarios to imagine, or using the CD to listen to visualization scripts) (review with students: *What is visualization? Does anyone have anymore ideas of things you could visualize at the carrel?* Allow time for sharing ideas)*

-Review: What were the four rules for using the carrel? a) normal classroom rules still need to be followed at the carrel, b) don't bring anything with you to the carrel; c) start the timer right when you get to the carrel and leave as soon as the timer beeps; d) sign the record sheet right when you get to the carrel

-Explain and demonstrate the use of the CD player (specifically, how to play CDs and how to navigate among the tracks); describe the CD itself (contains 12 instrumental

songs; ask: *why would classical/instrumental music help us to feel calmer than rock or rap music would?*) (the CD also includes pre-made visualizations and relaxation exercises); announce as well that there will be a list of songs posted at the carrel and that the CD will be replaced every few weeks with new music, visualizations, and relaxation exercises

-Conclude by mentioning that I will be by the class periodically to check how the calm carrel is working, to replace the CD and charts, and to answer any questions that anyone has about the carrel's use; answer questions that students may have at this juncture, and close by thanking the class for being such good listeners during the sessions

Specifics of Reflection Carrel for Review with Teachers Concurrent to Delivery of Calm Carrel Student Training Sessions

-each student will be allowed to take a maximum of 3 five-minute sessions at the calm carrel over the course of a school day

-only one person will be allowed at the carrel at a time

-a student taking a calm carrel session first checks to see that it is not currently being used, then marks a checkmark on the calm carrel record sheet to indicate he has chosen to take a session (this is the only record maintained)

-he then proceeds quietly to the carrel where he sits down and presses the start button on the five-minute digital countdown timer

-while at the carrel, the child has the option of sitting quietly and resting, listening to the CD tracks featuring classical/instrumental relaxation music, listening to the CD tracks

featuring progressive muscle relaxation exercises, practicing deep breathing exercises, practicing muscle relaxation exercises without the CD, and/or practicing visualization exercises with or without use of the CD

- the child is not permitted to bring any papers or materials with them to the calm carrel
- the child is not required to compensate for time missed while at the carrel by doing extra work nor by making up extra time at a later point in the day (the calm carrel is entirely non-punitive)
- while at the reflection carrel, normal classroom behavioural expectations will apply; a child who is not following a certain rule while at the calm carrel will be subject to the same consequences (i.e. time-out, point loss, token loss) he/she would normally be subject to
- when the timer signals that a child's 5 minute period at the carrel has elapsed, he will quietly return to his/her desk and continue with the class work/activities

Appendix C: Relaxation and Visualization Scripts from the Calm Carrel CDs*

General Relaxation Exercises 1

Close your eyes and begin to feel as relaxed as possible. Take in a deep breath and bring your shoulders up towards your ears. Hold them there, feeling the tension in your shoulder muscles. Hold it, and relax, letting your shoulders drop back down. Now take another deep breath, in through your nose, hold it, and then breathe out through your mouth. Now, bring your chin down towards your chest. Hold your chin on your chest, and feel the tension in your neck and chin muscles. Hold it, and relax, bringing your chin back up, and feeling the difference between the tension and the relaxation. Now, hold both of your arms out in front of you. Make both hands into fists, while holding your arms straight out in front of you. Hold your hands in fist positions, feeling the tension in your hand and finger muscles. Hold it, and now relax. Open your hands and feel the relaxation in these muscles. Now, keeping both of your heels flat on the floor, point your toes as high as you can towards the ceiling. Keep your heels on the floor, and point your toes up towards the ceiling. Hold it, feeling the tension in your feet muscles. And now relax, bringing your toes back to the ground, feeling the difference between the tension and the relaxation. Now, shut your eyes as tightly as you can. Hold them shut and feel the tension in your eye and forehead muscles. Hold it, and now relax, letting your eyes open, and feeling the difference between the tension and the relaxation. Now, bite your teeth together as tightly as you can. Hold them together tightly, feeling the tension in your jaw and cheek muscles. Hold it, and relax, letting your jaws come apart, and feeling the difference between the tension and the relaxation in your jaw muscles. Take another

deep breath, slowly in through your nose, hold it, and then slowly breathe out through your mouth. You are now ready to return to your desk, feeling calm and relaxed.

General Relaxation Exercises 2

Make yourself as comfortable as possible. I'd like you to make your right hand into a fist. Hold it, and relax, letting your hand go loose and limp. Now, make your left hand into a fist. Hold it, feeling the tension, and relax, letting your hand go loose and limp. Now, try to bring your shoulders all the way up to your ears. Hold it, feeling the tension in your shoulders and at the bottom of your neck. Now relax, letting your shoulders drop down, and go loose and limp. Now, try to bring your eyebrows as high as you can on your forehead. Raise your eyebrows to the top of your head, and hold it, feeling the tension. Now relax, letting your eyebrows drop down. Now, close your eyes as tightly as you can. Hold it, feeling the tension in your eye muscles. And relax, letting your eyes open, and feel relaxed. Now, bring your chin down to your chest. Hold it, feeling the tension in your neck muscles. And relax, bringing your neck back to a straight position. Feel the difference between the tension and relaxation in your neck muscles. Now, bite your teeth together as tightly as you can. Hold it, feeling the tension in your jaw muscles. And relax, bringing your teeth apart. Feel the difference between the tension and the relaxation. Now, keeping your heels on the ground, point your toes up towards your face. Hold it, feeling the tension in your feet muscles. And relax, letting your feet come back to the ground, and your toes feel loose and limp. Now it is time to return to your desk. You are feeling calmer and more relaxed in your body's muscles. You're ready to continue with your work.

General Relaxation Exercises 3

Make yourself as comfortable as possible. I'd like you to make your right hand into a fist. Hold it as tight as you can, and feel the tension in your hand and arm. Now let it relax. Let your hand go loose and limp. Now make your left hand into a fist. Hold it as tight as you can. Feel the tension in your hand and arm. Hold it, and let it relax. Feel all the tension leave your hand and arm as they go loose and limp. Now, bring your shoulders all the way up to your ears. Feel the tension in your neck and shoulders. Hold it, and relax, letting your shoulders fall back down, and the tension leave your neck and shoulders. Enjoy the feeling of relaxation. Now, take your right hand, stretch it out in front of you, and bend your hand at the wrist so that your fingers are pointing straight up at the ceiling. Hold it, feeling the tension, especially in your wrist and fingers, and let it relax, bringing your hand back down, and your arm in. Now take your left arm, stretch it straight out in front of you, bend your hand at the wrist so that your fingers are pointing straight up at the ceiling. Hold it, feeling the tension in your wrist and hand. And let it relax, bringing your hand back down and your arm in. Notice the difference between the tension and relaxation. Now, wrinkle up your forehead by bringing your eyebrows as high as you can. Try to make your eyebrows touch the top of your forehead. Hold it, feeling the tension in your forehead. And relax, bringing your eyebrows back down. Now, close your eyes as tightly as you can. Hold them tightly shut, feeling the tension in your eyes. Hold it, and relax, opening your eyes, and feeling the relaxation in your eyes and forehead. Now, bring your chin down to your chest. Hold your chin at your chest, feeling the tension in your neck and chin. Hold it, and relax, bringing your chin back up,

and feeling the relaxation in your neck muscles. You're now ready to return to your desk, feeling calm and relaxed.

Face Relaxation Exercises

For your jaw, bite your teeth together tightly, and hold, feeling the tension in your jaw muscles. One, two, three, four, five. And relax, bringing your jaws apart, and feeling the tension leave your jaw muscles. For your eyes, raise your eyebrows as high as you can on your forehead. Hold, and feel the tension in your forehead. One, two, three, four, five. And relax, bringing your eyebrows back down, and feeling the tension leave. Now, close your eyes shut, as tightly as you can. Hold them shut and feel the tension. One, two, three, four, five. Open your eyes and feel all the tension leave. Feel the difference between the tension and the relaxation. Press your lips together as tightly as you can. Hold your lips in a tight position. Feel the tension in your mouth. One, two, three, four, five. And relax, bringing your lips apart, and feeling the tension leave. Press your tongue against the roof of your mouth. Feel the tension in your tongue as you hold the tip of it against the roof of your mouth. Hold for one, two, three, four, five. Let your tongue fall back to its usual position and feel the tension leave. Notice the difference between the relaxation and the feelings of tension.

Neck, Shoulders, and Back Relaxation Exercises

For your neck, bring your chin down towards your chest. Hold your chin against your chest and feel the tension in your neck. One, two, three, four, five. Bring your chin back up, so that your neck is straight. Feel the difference between the tension and the relaxation in your neck muscles. For your shoulders, bring your shoulders as high as you can towards your ears. Hold your shoulders up near your ears. One, two, three, four,

five. And relax, bringing your shoulders back down. Notice how they feel loose and limp, and how the tension has left them. For your back, bring your elbows as far as you can back towards the chair. Hold your elbows back. Feel the tension in your back muscles as you hold your elbows. One, two, three, four, five. And relax, bringing your elbows forward, and feeling the tension leave your back muscles. Feel the relaxation in your back.

Hands and Arms Relaxation Exercises

For the first hand exercise, hold your right arm straight out in front of you and make a tight fist. Hold it tighter and tighter. One, two, three, four, five. And relax. Drop your hand to your lap. This time, hold your left arm out in front of you and make a tight fist. Hold it. One, two, three, four, five. And relax. Let your arm and hand relax completely, resting on your lap. Now, hold your right arm out in front of you. Bend your right hand at the wrist, and point your fingers up to the ceiling. Hold it. One, two, three, four, five. And relax, letting your hand relax completely. Now, hold your left arm out in front of you. Bend your left hand at the wrist, and point your fingers up towards the ceiling. Hold the tension in your left hand. One, two, three, four, five. And relax, letting the muscles in your hand and arm go completely limp. Feel the difference between the tension and the relaxation. Now, bring your left hand up towards your left shoulder. Make a fist. Hold it with your fist at your left shoulder. One, two, three, four, five. And relax. Let your hand return to your lap, and your arm relax completely. Next, bring your right hand up towards your right shoulder and make a fist. Hold it. One, two, three, four, five. And relax, letting your right hand return to your lap, and your arm muscles relax completely. You are now ready to return to your desk.

Relaxing Visualization 1

Let yourself feel as comfortable as possible. Keep your feet flat on the floor and your hands resting comfortably. Now, gently close your eyes and let yourself settle into a position that is comfortable. Let your body become more and more quiet and relaxed. Try to stay as still as you possibly can. Try not to move at all. Let your breathing be calm and even. Breathe slowly in through your nose, hold it, and breathe out through your mouth. Let yourself feel more and more comfortably relaxed. Now, ask yourself, ‘What place is most relaxing to me at the moment?’ Try to picture this place. Imagine it in your mind. You might want to picture a quiet beach, a grassy field, a cool mountaintop, or a peaceful pond. Imagine whatever place is most relaxing to you. Quietly think about this place. Let it become as real as possible. How does it look? Can you see the sky? Can you feel the wind against your skin? Can you smell the gentle, cool air? Can you feel the warm sunlight, or perhaps the cool night air? Use all of your senses. What do you see? What do you hear? What is touching your skin? Can you taste or feel anything? Relax and enjoy your scene...It is now time to return to your desk. You are feeling much calmer and more relaxed after your imaginary scene.

Relaxing Visualization 2

Imagine you are walking through a forest. You see a tall oak tree. Perched on one of the branches is a large bird. It is a bald eagle. She sees you and flies down. She lands on a branch beside you. She asks you if you’d like to go for a ride on her back. She tells you to close your eyes and count to three. One, two, three. You open your eyes and notice that you have shrunk smaller and smaller, and you are now the size of a baby eagle. The mother eagle tells you to climb onto her back. You do, and then she slowly flies into the

air. Soon, you are soaring above the trees as she gracefully flies through the sky above the forest. As you are flying, look down and see the meadow with the little wildflowers. See the rowboat at the shore of the lake. Slowly and smoothly, the mother eagle carries you higher and higher into the sky. You feel the wind on your skin. It's wonderful to be flying in the air, free as the eagle, looking down. You can even see where you live down below. You keep on flying in great big circles, this way and that way, back and forth. You can see the tiny cars and tiny people far below as you get higher and higher in the air on the eagle's back. The eagle soars, and then gently glides without moving her wings. She lets the wind carry both of you for a moment. It feels very relaxing to be gliding on the wind. Finally, the eagle begins to go down, back towards the forest. The tops of the trees get closer and closer. She finds her tree, and slowly comes to land on the branch closest to the nest. She asks you to carefully climb off her back and onto the branch. Then she asks you to close your eyes and count backwards from three to one. Three, two, one. You are now your normal size again, feeling calm, relaxed, and ready to go back to work.

Relaxing Visualization 3

Close your eyes. Imagine going on an afternoon walk: a pleasant stroll through a peaceful, green forest. It is a beautiful afternoon: the sun is shining. It's warm, but not too warm. You start off strolling down a shady path, a nice wide path, with layers of pine needles under your feet. The ground is soft and gentle beneath the touch of your foot. The sun shines down through the trees. Little patches of sunlight are dancing here and there on the path. It is a warm and pleasant day. Your whole body feels warm and alive and peaceful. As you stroll down the path, you begin to unwind, feeling more relaxed.

Your hands and arms are swinging loosely by your sides. They're pleasantly warm and relaxed. Continuing to walk along the path, you find yourself relaxing more and more, as you stroll further and further down the path. The smells in the forest are refreshing. You can smell the fresh green smell of the pine trees and the fir trees. It is a fresh, green forest smell, and you become more and more aware of it as you walk further along the path. It seems so fresh and peaceful and relaxing. As you walk along the pathway, you feel yourself beginning to relax more and more deeply. The sun is dancing on the path. The fresh green smell and the cool pleasant shade, are giving your body that 'just-right' feeling of peaceful warmth. Not too warm and not too cool, just comfortably relaxed. Your hands and arms and shoulders are hanging peacefully by your sides. The muscles in your neck are starting to smooth out and relax. The muscles in your head and face are also feeling more relaxed, and the feelings of relaxation are becoming more noticeable in your chest and stomach. You are now ready to return to your desk, feeling peaceful and relaxed after your walk in the forest.

Relaxing Visualization 4

Try to make yourself as comfortable and relaxed as possible. Think about your breathing. Breathe very slowly and very deeply. Breathe in through your nose, and breathe out through your mouth. Think only about your breathing. Breathe very slowly and very deeply. Imagine you are beside the ocean. You are lying on the sand. You can see the waves. When you breathe out, the waves go out. Each time that the waves go out, your nervous energy goes with the ocean. Let the ocean take your tension away. Let your tension go. All of your worries are now at sea. Let each wave that comes to you bring you peace and calm. Let the ocean take away your worries. Now, you are in a

meadow. The grass is tall and green, and the wind is softly blowing. Think of how nice everything is. You can hear a little creek close by. There are lots of birds overhead in the sky. All you can hear are the birds and the noises of the creek. And you can feel the soft wind. Listen to the water; to the sounds. You are now ready to return to your desk, feeling relaxed and calm.

Relaxing Visualization 5

Try to make yourself as comfortable as possible. Imagine that you are in a beautiful forest. It is a warm, autumn day. The sun shines down on a gurgling stream that runs along the edge of the forest. You walk into the forest, over the crackling red and golden leaves and broken twigs. Pine cones are scattered across the ground. A squirrel runs up a tree. You watch the speed with which it moves, swiftly up and through the branches, until you can't see it anymore. It's very peaceful here in the forest. You see many flowers and soft green moss on the edge of the path. As you walk deeper into the forest, you feel more and more relaxed; more and more calm. You watch a leaf falling from a tree, as it dances and twirls in the air, before fluttering slowly down to rest with the others. You pause for awhile, and rest against an old oak tree. You can feel the rough bark of the tree against your fingertips, and can smell the ground and soft leaves scattered around it. Even as you're resting here against the rough bark of the tree, you feel a deep sense of relaxation in this calm forest. Feeling more and more relaxed as you lean against the tree, you take deep breaths, in slowly through your nose, holding it, and then breathing out through your mouth. After resting against the tree, you continue with your walk. You hear birds chirping in the trees. You're feeling calmer and calmer, more and

more relaxed, as you come to the other end of the forest. Now, you'll be ready to return to your desk, feeling calm and relaxed after your forest walk.

Relaxing Visualization 6

Make yourself as comfortable as possible. Take deep breaths, in slowly through your nose, hold it, and then breathe out slowly through your mouth. Feel yourself sinking deeper and deeper into the chair. You're starting to feel very comfortable and relaxed. Imagine you're going to take a ride in a boat on the ocean. As you walk towards your boat, the sun feels very warm as it shines brightly in the sky. The sand feels warm and soft under your toes. As you get closer to the water, you can smell the fresh, salty sea air. You can hear the waves of the ocean as they hit the beach. The water is closer now, and the sand begins to get a little cooler. The sun is shining on you and you feel good. You wait for a few moments, to feel the sun and the sand under your feet. You are now at the edge of the water, and you get into your boat. Your boat feels very comfortable and safe. The air is warm and the water is cool. You are slowly floating away from the shore on your boat, and you are feeling very relaxed. There are seagulls in the sky, and you watch them fly by over you. The water is warm now, and you feel it with your hands and legs. As the waves pass under you, the boat moves slowly up and slowly back down. You move with the boat, up and down, up and down, very slowly. You feel as if you are being rocked to sleep, as the water pushes you up and down, up and down. You're feeling very relaxed and comfortable. Now the waves are pulling you back into the beach. For a few more seconds you can ride on your boat without having to touch the sand. Feel the warm sun. Now the boat touches the sand, and you get out and move

around again. You feel calm and relaxed after your boat ride, and you are now ready to return to your desk feeling calm and relaxed.

Relaxing Visualization 7

Make yourself as comfortable as possible. Close your eyes if you like. Imagine you are walking along a beach. It is a bright summer day, late in the afternoon. The sun is shining warmly. The sky is clear, without a cloud in sight. The sand under your feet feels warm in the sunlight. The sounds of the waves beating against the shore echo in the air. You feel the warm, light breeze brush against your face as you walk. Far away, you can hear the cries of seagulls. You watch them glide through the sky. As you walk further along the shore, you decide to rest. You sit down in a pile of pure, white sand, and gaze out at the sea, watching the waves rolling into shore. Each wave breaks against the coast, rises up on the beach, and slowly goes back out to sea. With each motion of the wave, as it glides in and as it glides out, you find yourself feeling more and more relaxed, more and more calm. The waves are gliding in. The waves are gliding out. You feel more and more calm. Continue to watch the waves glide in and out. Now, as you stare off into the distance, you see that the sun is beginning to sink into the horizon. The sun is sinking down, and you feel more and more relaxed as you see it going down, down, down. The sky is turning brilliant colours of red, orange, yellow, green, blue, and purple. As the sun sets, sinking down into the horizon, you feel very relaxed and calm. You watch the sun as it sinks down, down, down. The beating of the waves, the smell and taste of the sea, the cries of the gulls, the warmth of the sun, leaves you feeling very soothed, very calm and relaxed. In a few moments it will be time to return to your desk. You are feeling completely refreshed and totally relaxed.

Relaxing Visualization 8

Imagine you are walking through a forest. Notice the path you are walking on. Feel what it is like. Hear the sounds as you take each step, one by one. Notice the sun, shining down on you. Feel how warm it is. As you walk, you see a small creek or a river on one side. Walk towards it. Hear the sounds the water makes. See the water as you walk towards it. Standing beside the creek, you take off your shoes and step into the water. Feel how cool it is on your feet. Sink your feet and toes into the sand at the bottom of the creek. Look at the water. See the sparkles and the reflections. Watch the water as it passes by. Looking up, you see the trees and the leaves blowing in the breeze. Pick out one tree and look at it. Notice its size. See its branches and leaves. Look up above it to the sky, a beautiful blue colour, with few clouds. Enjoy the sun shining down. Now, step out of the creek. Put your shoes back on and walk back down the path through the forest. You notice a bend in the pathway up ahead. You see the path is beginning to climb. As you continue to climb up the path, you feel yourself slowing down. As you slow down, you feel yourself relaxing even more. As you go deeper and deeper along the pathway, slowly climbing through the forest, you are slowing down and becoming more and more relaxed. You feel calm. It is such a warm, relaxing day, and you have been enjoying your walk through the forest. Soon it will be time to return to your desk, but you are feeling much calmer and more relaxed after your imaginary walk.

*The relaxation exercises and visualization scripts appearing above are based upon a combination of ideas and scripts drawn from Carter and Cheesman (1988), Cautela and Groden (1978), Hiebert (1993), Humphrey (1988), Jackson and Owens (1999), Loosmore

(1994), Lusk (1992), Madders (1987), Neidhardt, Conry, and Weinstein (1982), Payne (2000), and Walker (2001).

Appendix D: CD Track Listings as Posted at the Calm Carrel

Disc 1

1. Relaxation Exercises	5:02
2. Visualization 1 (Walk in Forest)	5:02
3. Visualization 2 (Ocean & Meadow)	5:04
4. Elvira Madigan	5:37
5. Mariachi	1:48
6. With an Orchid	5:03
7. The Memory of Trees	4:11
8. Tea House Moon	2:38
9. The Wind in the Willows	3:07
10. Chilly Winds	2:38
11. Solace	3:41
12. Joy	3:05
13. Spirit of E9	4:59
14. Lastly Tender	2:37
15. Rolling Waves	6:25
16. Hands and Arms Exercises	5:00
17. Neck, Shoulders, and Back Exercises	2:55
18. Face Exercises	3:58

Disc 2

1. Relaxation with Music	4:54
2. Visualization: Beach	4:55
3. Visualization: Forest Walk	5:00
4. "To B or Not to B"	3:27
5. "Grandpa's Lullaby"	2:42
6. "Spinning Wheel"	3:21
7. "The Warmth of the Sun"	3:19
8. "Signe"	2:06
9. "Coyita"	3:14
10. "Nocturne in E Flat"	5:00
11. "Sandman"	2:49
12. "Kalena Kai"	4:12
13. "Eine Kleine Nachtmusik"	5:02
14. "Quiet Meadows"	5:00
15. "Flat Pick #8"	2:51
16. Neck, Shoulders, Back Relaxation	2:55
17. Hands and Arms Relaxation	5:00
18. Relaxation with Music #2	4:56

Disc 3

1. <i>Boat Trip Visualization</i>	5:00
2. “Ginger Lei”	4:36
3. “Um Tom”	2:24
4. <i>Relaxation Exercises</i>	5:00
5. “Ookpik Waltz”	4:43
6. “Piano”	3:29
7. <i>Hands and Arms Relax</i>	5:00
8. “If You Believe”	2:55
9. <i>Forest Visualization</i>	4:54
10. “Virtue”	4:03
11. <i>Face Relax</i>	3:58
12. “Spirit”	4:59
13. <i>An Imaginary Place Visualization</i>	5:00
14. “Heart of the Sunrise”	1:16
15. “Paradiso”	4:17
16. <i>Fly with an Eagle Visualization</i>	5:00
17. “Birds in Flight”	2:05
18. “Over the Sea to Skye”	3:35

Disc 4 (compilation of previous three discs)

1. Relaxation Exercises	5:00
2. Visualization (Walk in Forest)	5:00
3. "Kalena Kai"	4:12
4. "Sandman"	2:49
5. "Tea House Moon"	2:38
6. "To B or Not to B"	3:27
7. "Elvira Madigan"	5:00
8. "Lastly Tender"	2:37
9. Visualization (Walking along Beach)	4:55
10. "With an Orchid"	5:03
11. "Signe"	2:06
12. "Joy"	3:05
13. "Solace"	3:41
14. "Quiet Meadows"	5:00
15. "The Memory of Trees"	4:11
16. Relaxation for Hands and Arms	5:00
17. Face Relaxation	3:58
18. Neck, Shoulders, & Back Relaxation	2:55

Appendix E: Listing of Specific Songs Used on CDs at the Calm Carrel

Disc 1

1. Relaxation Exercises
2. Visualization 1 (Walk in Forest)
3. Visualization 2 (Ocean and Meadow)
4. Piano Concerto No. 21, “Elvira Madigan” Andante (from *The Mozart Factor Music for Self-Enhancement: The Spirit*, 2000)
5. Willie Nelson, “Mariachi” (from *Spirit*, 1996)
6. Yanni, “With an Orchid” (from *If I Could Tell You*, 2000)
7. Enya, “The Memory of Trees” (from *The Memory of Trees*, 1995)
8. Enya, “Tea House Moon” (from *The Memory of Trees*, 1995)
9. Phil Coulter, “The Wind in the Willows” (from *Classic Tranquility*, 1983)
10. Kingston Trio, “Chilly Winds” (from *Sing A Song with The Kingston Trio: Instrumental Background Re-creations of their Biggest Hits*)
11. Marvin Hamlisch, “Solace” (from *Original Motion Picture Soundtrack: “The Sting” Featuring the Music of Scott Joplin*, 1974)
12. George Winston, “Joy” (from *December*, 1982)
13. Willie Nelson, “Spirit of E9” (from *Spirit*, 1996)
14. Harry Manx with Kevin Breit, “Lastly Tender” (from *Jubilee*, 2003)
15. Michael Maxwell and Dan Gibson, “Rolling Waves” (from *Solitudes: Soothing Massage*, 2002)
16. Hand and Arm Relaxation Exercises
17. Neck, Shoulder, and Back Relaxation Exercises
18. Face Relaxation Exercises

Disc 2

1. Relaxation with Music
2. Visualization: Beach
3. Visualization: Forest Walk
4. Muriel Anderson, “To B or Not To B” (from *Arioso from Paris*, 1991)
5. Pat Kirtley, “Grandpa’s Lullaby” (from *Guitar Fingerstyle*, 1996)
6. Phil Coulter, “Spinning Wheel” (from *Classic Tranquility*, 1983)
7. Philip Aaberg & Scott Matthews, “The Warmth of the Sun/Surfer Girl” (from *Summer Solstice: A Windham Hill Collection*, 1997)
8. Eric Clapton, “Signe” (from *Unplugged*, 1992)
9. Gustavo Santaolalla, “Coyita” (from *Ronroco*, 1996)
10. Chopin, “Nocturne in E Flat, Opus 9, No. 2” (from *Sounds Orchestral: Featuring Johnny Pearson*, 1990)
11. George Winston, “Sandman” (from *All the Seasons of George Winston: Piano Solos*, 1998)
12. Keola Beamer, “Kalena Kai” (from *Wooden Boat*, 1994)
13. Mozart, Excerpt from “Eine Kleine Nachtmusik” (from *The Mozart Experience Volume 4-Serenades, Divertimentos, Dances*, 1989).
14. “Quiet Meadows”
15. Larry Sparks, “Danny Boy” (from *Blue Mountain Memories*, 1996)
16. Neck, Shoulders, Back Relaxation
17. Hands and Arms Relaxation
18. Relaxation with Music #2

Disc 3

1. *Boat Trip Visualization*
2. Bob Brozman and Ledward Kaapana, “Lei `Awapuhi (Yellow Ginger Lei)” (from *Kika Kila Meets Ki Ho`Alu*, 1997)
3. Caetano Veloso, “Um Tom” (from *Livro*, 1999)
4. *Relaxation Exercises*
5. Altan, “Ookpik Waltz” (from *Another Sky*, 2000)
6. “Piano”
7. *Hands and Arms Relax*
8. Jim Brickman, “If You Believe” (from *If You Believe*, 1999)
9. *Forest Visualization*
10. Jesse Cook, “Virtue” (from *Free Fall*, 2000)
11. *Face Relax*
12. Uman, “Spirit” (from *Conversations with God*, 1997)
13. *An Imaginary Place Visualization*
14. John Tesh, “Heart of the Sunrise” (from *One World*, 1999)
15. Steve Erquiaga, “Themes from Cinema Paradiso: First Youth/Love Theme for Nata” (from *Café Paradiso*, 1998)
16. *Fly with an Eagle Visualization*
17. George Winston, “Birds in Flight” (from *Sadako and the Thousand Paper Cranes*, 1995)
18. James Galway and The Chieftains, “Over the Sea to Skye” (from *Over the Sea to Skye: The Celtic Connection*, 1990)

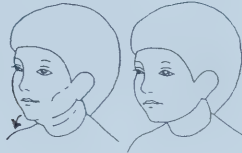
Disc 4 (compilation of previous three discs)

1. Relaxation Exercises
2. Visualization (Walk in Forest)
3. Keola Beamer, “Kalena Kai” (from *Wooden Boat*, 1994)
4. George Winston, “Sandman” (from *All the Seasons of George Winston: Piano Solos*, 1998)
5. Enya, “Tea House Moon” (from *The Memory of Trees*, 1995)
6. Muriel Anderson, “To B or Not To B” (from *Arioso from Paris*, 1991)
7. Piano Concerto No. 21, “Elvira Madigan” Andante (from *The Mozart Factor-Music for Self-Enhancement: The Spirit*, 2000)
8. Harry Manx with Kevin Breit, “Lastly Tender” (from *Jubilee*, 2003)
9. Visualization (Walking along Beach)
10. Yanni, “With an Orchid” (from *If I Could Tell You*, 2000)
11. Eric Clapton, “Signe” (from *Unplugged*, 1992)
12. George Winston, “Joy” (from *December*, 1982)
13. Marvin Hamlisch, “Solace” (from *Original Motion Picture Soundtrack: “The Sting” Featuring the Music of Scott Joplin*, 1974)
14. “Quiet Meadows”
15. Enya, “The Memory of Trees” (from *The Memory of Trees*, 1995)
16. Relaxation for Hands and Arms
17. Face Relaxation
18. Neck, Shoulders, & Back Relaxation

Appendix F1: Poster Depicting Relaxation Exercises for Use at the Calm Carrel

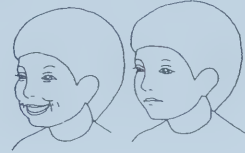
Neck

-Bring your chin down to your chest and feel the tension in your neck muscles.



Mouth

-Bite your teeth together as tightly as you can and feel the tension in your jaw muscles.

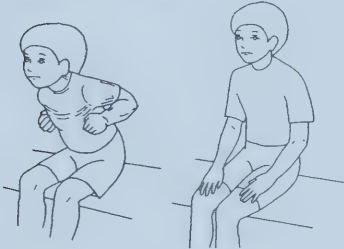


Breathing Reminder

1. Breathe in through your nose while counting to 6 slowly.
2. Hold your breath while counting to 4.
3. Breathe out through your mouth while counting to 6 slowly.

Back Muscles

-Bring your elbows back as far as you can and feel the tension in your back.

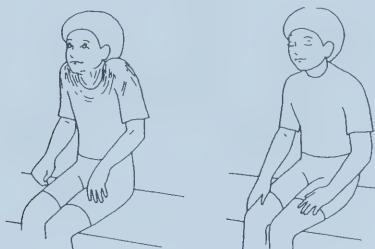


*Illustrations are from Cautela, J. R. & Groden, J. (1978). *Relaxation: A Comprehensive Manual for Adults, Children, and Children with Special Needs*. Champaign, Ill: Research Press Co.

Appendix F2: 2nd Poster Depicting Relaxation Exercises for Use at the Calm Carrel

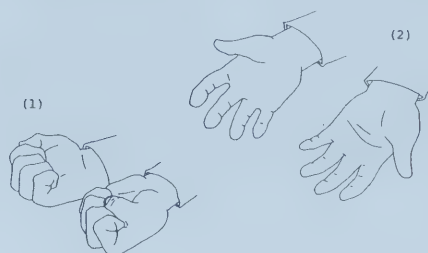
Shoulders

-Bring your shoulders up as high as you can (try to make them touch your ears), and feel the tension in your shoulders.



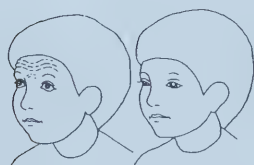
Hands

-Make your hands into fists. Hold them as tightly as you can and feel the tension in your hands.



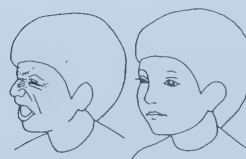
Forehead

-Raise your eyebrows as high as you can and feel the tension in your forehead.



Nose

-Scrunch your nose up as tightly as you can and feel the tension in your face.



*Illustrations are from Cautela, J. R. & Groden, J. (1978). *Relaxation: A Comprehensive Manual for Adults, Children, and Children with Special Needs*. Champaign, Ill: Research Press Co.

Appendix G: Summary of Calm Carrel Procedures (As Posted for Student Reference)

The Calm Carrel

- 1. First, put a check mark on the chart to show you are taking a time at the calm carrel.**
- 2. Next, start the five-minute timer by pressing the button one time.**
- 3. While you are at the calm carrel, you can:**
 - listen to the music on the CD**
 - do the exercises shown on the poster**
 - listen to the relaxation exercises on the CD**
 - listen to the visualizations on the CD**
 - practice deep, relaxed breathing**
 - think of your own visualizations**
- 4. When the timer beeps, press the button two times, and return to your desk.**

Appendix H: Photos of the Calm Carrel Setup Used in the Study

Figure 1: The Calm Carrel Setup at Experimental Class A



Figure 2: The Calm Carrel Setup at Experimental Class B



Appendix I1: Student Calm Carrel Feedback Survey Form

First Name _____

1. Please fill in the stars to show if you thought the calm carrel was a good idea for your classroom:

*****=very good idea

****=good idea

***=average idea

**=fair idea

*=bad idea



2. Please fill in the stars to show how much you liked:

- a) The music at the calm carrel:



- b) The relaxation exercises:



- c) The visualizations:



3. Was the calm carrel helpful for you when you felt upset, distracted, or angry in class?

4. How was the calm carrel helpful for you?

5. What did you like best about the calm carrel?

6. Do you have any suggestions for how the calm carrel could have been better?

7. Did you have a favourite song that you heard at the calm carrel? If so, what was it called?

Appendix I2: Teacher Calm Carrel Feedback Survey Form

Teacher Survey:

1. Overall, the calm carrel was a useful option to have available for students in my class.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
------------------------------	-----------------	----------------	--------------	---------------------------

2. The calm carrel fit in well with my existing approach to classroom management.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
------------------------------	-----------------	----------------	--------------	---------------------------

3. Students used the calm carrel appropriately.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
------------------------------	-----------------	----------------	--------------	---------------------------

4. I would consider implementing a similar self-management intervention with my students in future years.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
------------------------------	-----------------	----------------	--------------	---------------------------

5. Your comments on each of the following areas would be appreciated:

- a) The quality of the three half-hour calm carrel training sessions provided to the students:

- b) The parameters set out for student use of the calm carrel:

c) The materials and strategies provided for student use at the calm carrel:

d) The appropriateness of the calm carrel as a tool for general classroom management with this population of students:

e) The specific utility of the calm carrel intervention in fostering student self-management skills:

6. Any further comments you may have regarding the calm carrel intervention would be appreciated. Thank you again for your input.

Appendix J1: Experimental Class C Point Loss Specifications

Talking back: -5

Calling-out: -5

Being out of seat without permission: -5

Making inappropriate noises: -5

Chatting: -5

Whining: -5

Fooling around: -5 or -10

Not following routines: -5 or -10

Showing a bad attitude: -5 or -10

Acting rudely to a peer: -5 or -10

Not listening: -10

Arguing: -10

Throwing objects: -10

Behaving disruptively: -10

Behaving defiantly: -10

Engaging in negative peer contact: ranges from -5 to -20

Instigating conflict: ranges from -5 to -20

Behaving rudely: -20

Swearing: -20

*although these were the average point loss values assigned to the various misbehaviours, they varied depending upon the severity of individual instances of each transgression

Appendix J2: Control Class B Point Loss Specifications

Calling-out in class: -1

Not listening: -1

Refusing to participate: -2

Attending the quiet room voluntarily: -2

Being verbally abusive: -3

Throwing objects: -4

Attending the quiet room involuntarily: -4

Being physically aggressive/abusive: -5

Requiring a restraint by teacher or aide: -5

Being suspended: -20

Appendix K: Individual Student Data Summary Charts

Table K1

Point Loss Means and Time-Out Means for Experimental Class A

Student Number	Baseline Phase Daily Point Loss Mean (out of a possible 33)	Experimental Phase Daily Point Loss Mean (out of a possible 33)	Baseline Phase Daily Time-Out Mean	Experimental Phase Daily Time-Out Mean
1	2.2000	2.1190	0.2000	0.2381
2	6.7297	6.6301	1.3243	1.1872
3	6.6571	4.0448	0.7222	0.2985
4	0.5429	1.3750	0.0000	0.0000
5	7.4557	3.0909	1.2152	0.2500
6	7.1000	4.3415	1.1250	0.7561
7	5.0973	4.6071	0.9688	1.0357
8	6.0541	11.2182	0.8649	1.8545
9	1.0488	0.3103	0.0000	0.0300

Table K2

Point Loss Means for Experimental Class B

Student Number	Baseline Phase Daily Point Loss Mean (out of a possible 12)	Experimental Phase Daily Point Loss Mean (out of a possible 12)
1	1.3000	1.9302
2	4.9000	3.8129
3	5.5257	2.3976
4	1.0417	1.3248
5	3.1818	4.0128
6	2.0556	1.9872
7	3.4375	5.1625
8	2.5139	2.8913
9	3.8654	0.7692
10	5.8649	4.9500
11	0.7800	2.7407

Table K3

Point Loss Means and Point Gain Means for Experimental Class C

Student Number	Baseline Phase Daily Point Loss Mean	Experimental Phase Daily Point Loss Mean	Baseline Phase Daily Point Gain Mean	Experimental Phase Daily Point Gain Mean
1	15.9211	20.3750	48.0263	40.3750
2	9.7561	6.8293	46.4634	43.5366
3	36.9444	35.9756	15.9722	13.1707
4	28.5366	29.5238	25.1220	30.9524
5	31.2195	40.8000	28.4146	-8.2000
6	14.7561	30.2381	38.7805	25.2381
7	18.0488	26.4286	31.4634	38.2143
8	31.1111	25.3659	17.2222	23.0488

Table K4

Point Loss Means and Time-Out Means for Control Class A

Student Number	Baseline Phase Daily Point Loss Mean (out of a possible 33)	Experimental Phase Daily Point Loss Mean (out of a possible 33)	Baseline Phase Daily Time-Out Mean	Experimental Phase Daily Time-Out Mean
1	1.1351	1.4091	0.2703	0.2727
2	1.1714	1.9268	0.1429	0.1707
3	0.7297	0.3721	0.0270	0.0233
4	3.1795	2.0000	0.4359	0.3030
5	0.5128	0.7750	0.0256	0.0250
6	0.2895	0.2000	0.0526	0.0000
7	1.1290	0.0690	0.0645	0.0000
8	2.7188	3.1000	0.1875	0.1000

Table K5

Point Loss Means for Control Class B

Student Number	Baseline Phase Daily Point Loss Mean	Experimental Phase Daily Point Loss Mean
1	8.5750	3.1920
2	7.2500	5.4479
3	6.1250	9.4048
4	6.5075	2.5250
5	5.0000	1.4118
6	14.9870	9.8095
7	24.5714	21.9011
8	11.3333	12.0227

Appendix L: Data Summary Charts for Calm Carrel Users

Table L1

Experimental Class A: Average Point Loss Summary for Carrel Users

Phase of the Study	Mean Daily Point Loss	Standard Error	Lower Bound 95% C.I.	Upper Bound 95% C.I.	Standard Deviation	Number of Students
Baseline	4.550	1.236	1.373	7.727	3.027	6
Experimental	4.157	1.568	0.126	8.188	3.841	6

Table L2

Experimental Class B: Average Point Loss Summary for Carrel Users

Phase of the Study	Mean Daily Point Loss	Standard Error	Lower Bound 95% C.I.	Upper Bound 95% C.I.	Standard Deviation	Number of Students
Baseline	2.957	0.561	1.688	4.226	1.774	10
Experimental	2.817	0.466	1.762	3.871	1.474	10

Table L3

Experimental Class C: Average Point Loss Summary for Carrel Users

Phase of the Study	Mean Daily Point Loss	Standard Error	Lower Bound 95% C.I.	Upper Bound 95% C.I.	Standard Deviation	Number of Students
Baseline	25.220	3.333	17.064	33.375	8.818	7
Experimental	29.815	2.579	23.506	36.125	6.822	7

Table L4

Experimental Class C: Average Point Gain Summary for Carrel Users

Phase of the Study	Mean Daily Point Loss	Standard Error	Lower Bound 95% C.I.	Upper Bound 95% C.I.	Standard Deviation	Number of Students
Baseline	29.286	4.329	18.694	39.878	11.453	7
Experimental	23.257	6.308	7.822	38.692	16.690	7

Appendix M: Summary of Individual Students' Carrel Use and Follow-up Survey Responses

Experimental Class A's Carrel Usage and Follow-up Survey Summaries

Student A1 Carrel Use Summary:

A1 did not self-report any use of the calm carrel on the record charts. (However, on the calm carrel survey he completed at the end of the study, he rated the carrel as a good idea, and said "the calm carrel was helpful to me because it calmed me down", "I liked that it help (sic) me calm down", and "the calm carrel could of (sic) been better if it had rock music". This would seem to indicate that A1 must have used the carrel at some point and neglected to record it on the data sheet.)

Student A2 Carrel Use Summary:

A2 did not self-report any use of the calm carrel on the record charts. His calm carrel survey was consistent with this (i.e. in that he stated "I did not use it.")

Student A3 Carrel Use Summary:

A3 did not self-report any use of the calm carrel on the record charts. A3 did not complete a calm carrel survey either.

Student A4 Carrel Use Summary:

April 30: 1 pt. lost (above his baseline avg. of 0.5429; **below** his experimental avg. of 1.375)

May 14: 2 pts. lost (above his baseline average; above his experimental average)

Summary: A4 reported using the calm carrel 2 times during the study. His average point loss for the days he used the carrel was 1.5. This was above his baseline phase point loss average of 0.5429, and above his experimental phase average of 1.375.

Summary of A4's ratings of the calm carrel:

Overall the calm carrel was a very good idea.

The music was: fair

The relaxation exercises were: fair

The visualizations were: average

Was the calm carrel helpful? "yes it did help beacuse (sic: because) just sit (sic) and waiting helped."

How was the calm carrel helpful? “it was helpful beacuse (sic: because) it calmed me down”

What was best about the calm carrel? “I liked the visualization the best.”

Suggestions for improvement? “no I don’t have any.”

Favourite song? “I didn’t have a favorite song.”

Student A5 Carrel Use Summary:

April 15: 33 pts. lost (suspended this day) (above his baseline average of 7.4557; above his experimental average of 3.0909)

April 28: 2 pts. lost (**below** his baseline average; **below** his experimental average)

May 5: 0 pts. lost (**below** his baseline average; **below** his experimental average)

May 14: 2 pts. lost (**below** his baseline average; **below** his experimental average)

Summary: A5 reported using the calm carrel 4 times during the study. His average point loss for the days he used the carrel was 9.25. This was above his baseline phase point loss average of 7.4557, and above his experimental phase average of 3.0909. This average though, is swayed largely by the fact that A5 received 0 points on one day due to an in-school suspension. If this outlying value were not included, A5’s point loss on the other three days of carrel usage would average to 1.3333, which is **above** both his baseline and experimental averages.

Summary of A5’s ratings of the calm carrel:

Overall the calm carrel was a very good idea.

The music was: good

The relaxation exercises were: good

The visualizations were: good

Was the calm carrel helpful? “Yes it was helpful when I was angry becuse (sic: because) it relaxed my body and I felt less upset.”

How was the calm carrel helpful? “it was helpful becuse (sic: because) I think it was a nice place to get away from anger and clam (sic: calm) yourself.”

What was best about the calm carrel? “I liked all of them becuse (sic: because) I thought it was a good idea.”

Suggestions for improvement? “No I don’t becuse (sic: because) I like it the way it is. It is a (sic) really good.”

Favourite song? “No I did not becuse (sic: because) I forget all the songs.”

Student A6 Carrel Use Summary:

April 14: 8 pts. lost (above his baseline average of 7.1; above his experimental average of 4.3415)

April 22: 0 pts. lost (**below** his baseline average; **below** his experimental average)

May 8: 6 points (**below** his baseline average; above his experimental average)

Summary: A6 reported using the calm carrel 3 times during the study. His average point loss for the days he used the carrel was 4.6667. This was **below** his baseline phase point loss average of 7.1, and above his experimental phase average of 4.3415.

Summary of A6's ratings of the calm carrel:

Overall the calm carrel was a fair idea.

The music was: very good

The relaxation exercises were: bad

The visualizations were: bad

Was the calm carrel helpful? "yes because it distracts (sic) you from your problem"

How was the calm carrel helpful? "It help (sic) by the music (sic)"

What was best about the calm carrel? "The music it is nice."

Suggestions for improvement? "It was singing music not classic not sing (sic)."

Favourite song? "I did not have a favourite song."

Student A7 Carrel Use Summary:

April 17: 0 pts. lost (**below** his baseline average of 5.0937; **below** his experimental average of 4.6071)

May 23: 4 pts. lost (**below** his baseline average; **below** his experimental average)

Summary: A7 reported using the calm carrel 2 times during the study. His average point loss for the days he used the carrel was 2. This was **below** his baseline phase point loss average of 5.0937, and **below** his experimental phase average of 4.6071. Unfortunately, A7 moved schools at the start of June, and hence was unable to complete a calm carrel survey at the conclusion of the study.

Student A8 Carrel Use Summary:

April 17: 12 pts. lost (above his baseline average of 6.0541; above his experimental average of 11.2182)

April 28: although A8 checked off on the calm carrel chart that he had used the carrel on April 28th, attendance records indicated he was absent this day; it is likely the case that he used the carrel a different day and checked off the wrong day on the chart

Summary: A8 reported using the calm carrel 2 times during the study. Points were recorded only for the day of his first use of the carrel. On this day, he lost 12 points. This was above his baseline phase point loss average of 6.0541 and also, more marginally, above his experimental average of 11.2182. Unfortunately, due to extensive absences during the month of June, A8 was unable to complete a calm carrel survey at the conclusion of the study.

Student A9 Carrel Use Summary:

May 29: 0 pts. lost (**below** his baseline average of 1.0488; **below** his experimental

average of 0.3103)

Summary: A9 reported using the calm carrel 1 time during the study. His point loss for the day he used the carrel was 0. This was **below** his baseline phase point loss average of 1.0488, and also **below** his experimental average of 0.3103.

Summary of A9's ratings of the calm carrel:

Overall the calm carrel was a good idea.

The music was: "I didn't use it so I can't answer."

The relaxation exercises were: (see above)

The visualizations were: (see above)

Was the calm carrel helpful? "No because I never used it."

How was the calm carrel helpful? "It wasn't because I never used it."

What was best about the calm carrel? "I wouldn't know because I never used it."

Suggestions for improvement? "No because I didn't ever know how good it was or bad it was."

Favourite song? "No because I never used it." (*A9's responses to the calm carrel survey that he 'never used' the carrel, contradict the calm carrel record charts where he appears to have checked off a use of the carrel on May 29*).

Experimental Class B's Carrel Usage and Follow-up Survey Summaries

Student B1: Carrel Use Summary

April 11: 2 points lost (above baseline point loss average of 1.3; above experimental avg. of 1.9302)

14: 1.5 pts. lost (above baseline average; **below** experimental average)

15: 1.5 pts. lost (above baseline average; **below** experimental average)

16: 1 pt. lost (**below** baseline average; **below** experimental average)

25: 3 pts. lost (above baseline average; above experimental average)

May 9: 3 pts. lost (above baseline average; above experimental average)

12: 1 pt. lost (**below** baseline average; **below** experimental average)

13: 3.5 pts. lost (above baseline average; above experimental average)

23: 2 pts. lost (above baseline average; above experimental average)

28: 3.5 pts. lost (above baseline average; above experimental average)

Summary: B1 reported using the calm carrel 10 times during the study. His average point loss for days he used the carrel was 2.2. This was above his baseline average of 1.3, and above his experimental average of 1.9302. B1 did not unfortunately complete a calm carrel student survey, but from his frequent usage of the carrel, it could be assumed he found it helpful.

Student B2 Carrel Use Summary:

B2 did not self-report any use of the calm carrel on the record charts.

Student C3 Carrel Use Summary:

April 16: 3.5 pts. lost (**below** his baseline avg. of 5.5257; above his experimental avg. of 2.3976)

17: 2.5 pts. lost out of 6 (during the half day he was present) (converted to 5 points lost) (**below** his baseline avg.; above his experimental avg.)

May 26: no point data provided (B3's book was not signed; he was therefore coded as absent)

Summary: B3 reported using the calm carrel 3 times during the study. His average point loss for days he used the carrel was 4.25. This was **below** his baseline phase point loss average of 5.5257, and above his experimental average of 2.3976.

Summary of B3's ratings of the calm carrel:

Overall the calm carrel was a very good idea.

The music was: very good

The relaxation exercises were: average

The visualizations were: good

Was the calm carrel helpful? "sort of"

How was the calm carrel helpful? "it made me feel calm most of the time"

What was best about the calm carrel? "the relaxing music"

Suggestions for improvement? "no just fine"

Favourite song? "it was on the first sheet"

Student B4 Carrel Use Summary:

April 11: 1 pt. lost (**below** his baseline avg. of 1.0417; **below** his experimental avg. of 1.3248)

14: 3 pts. lost (above his baseline average; above his experimental average)

28: 1 pt. lost (**below** his baseline average; **below** his experimental average)

Summary: B4 reported using the calm carrel 3 times during the study. His average point loss for days he used the carrel was 1.6667. This was above his baseline phase point loss average of 1.0417, and above his experimental average of 1.3248.

Summary of B4's ratings of the calm carrel:

Overall the calm carrel was a good idea.

The music was: average

The relaxation exercises were: average

The visualizations were: very good

Was the calm carrel helpful? yes

How was the calm carrel helpful? "time to think"

What was best about the calm carrel? "do not no (sic)"

Suggestions for improvement? "better music"

Favourite song? “no”

Student B5 Carrel Use Summary:

April 16: 2 pts. lost (**below** his baseline avg. of 3.1818; **below** his experimental avg. of 4.0128)

Summary: B5 reported using the calm carrel 1 time during the study. His point loss for the day he used the carrel was 2. This was **below** his baseline phase point loss average of 3.1818, and **below** his experimental average of 4.0128.

Summary of B5’s ratings of the calm carrel:

Overall the calm carrel was a very good idea.

The music was: very good

The relaxation exercises were: average

The visualizations were: good

Was the calm carrel helpful? “yes it helps”

How was the calm carrel helpful? “it help me com (sic: calm) down”

What was best about the calm carrel? “the music”

Suggestions for improvement? “no”

Favourite song? “no I did not have a favourit (sic) song”

Student B6 Carrel Use Summary:

April 16: 1 pt. lost (**below** his baseline avg. of 2.0556; **below** his experimental avg. of 1.9872)

Summary: B6 reported using the calm carrel 1 time during the study. His point loss for the day he used the carrel was 1. This was **below** his baseline phase point loss average of 2.0556, and **below** his experimental average of 1.9872.

Summary of B6’s ratings of the calm carrel:

Overall the calm carrel was a good idea.

The music was: very good

The relaxation exercises were: average

The visualizations were: average

Was the calm carrel helpful? “no”

How was the calm carrel helpful? “use (sic) it once”

What was best about the calm carrel? “the music”

Suggestions for improvement? “I don’t know”

Favourite song? “No I like them all”

Student B7 Carrel Use Summary:

April 11: 4 pts. lost (above his baseline avg. of 3.4375; **below** his experimental avg. of 5.1625)

15: 1.5 pts. lost (**below** his baseline average; **below** his experimental average)

15: B7 reported using the carrel 2 times on the 15th

28: B7 reported using the carrel on the 28th of April, but he was listed as absent in the teacher records for this day; he likely checked off the wrong day by mistake

May 15: 11 pts. lost (above his baseline average; above his experimental average)

Summary: B7 reported using the calm carrel 5 times during the study. His average point loss for the days he used the carrel was 5.5. This was above his baseline phase point loss average of 3.4375, and above his experimental average of 5.1625. The average point loss for days B7 used the carrel was calculated without the May 28th value.

Summary of B7's ratings of the calm carrel:

Overall the calm carrel was a good idea.

The music was: very good

The relaxation exercises were: average

The visualizations were: good

Was the calm carrel helpful? "yes it did help"

How was the calm carrel helpful? "it was helpful because (sic) it camd (sic: calmed) me down"

What was best about the calm carrel? "the musci (sic: music)"

Suggestions for improvement? "No I do not"

Favourite song? "12"

Student B8 Carrel Use Summary:

April 14: 3 pts. lost (above baseline avg. of 2.5139; above his experimental avg. of 2.8913)

24: 9 pts. lost (above his baseline average; above his experimental average)

June 5: 2 pts. lost (**below** his baseline average; **below** his experimental average)

Summary: B8 reported using the calm carrel 3 times during the study. His average point loss for the days he used the carrel was 4.6667. This was below his baseline phase point loss average of 2.5139, and below his experimental average of 2.8931.

Summary of B8's ratings of the calm carrel:

Overall the calm carrel was a good idea.

The music was: fair

The relaxation exercises were: good

The visualizations were: bad

Was the calm carrel helpful? "yes it cald (sic: calmed) me down when I was mad"

How was the calm carrel helpful? "it maid (sic: made) me happy and I didnt (sic) have pain in my head"

What was best about the calm carrel? "it camls (sic: calms) me down"

Suggestions for improvement? "No"

Favourite song? "Yes its called spirt (sic: Spirit)"

Student B9 Carrel Use Summary:

April 16: 0 pts. lost (4 checks); (**below** his baseline avg. of 3.8654; **below** his experimental avg. of 0.7692)

Summary: B9 reported using the calm carrel 1 time during the study. His point loss for the day he used the carrel was 0. This was **below** his baseline phase point average of 3.8654, and **below** his experimental average of 0.7692.

Summary of B9's ratings of the calm carrel:

Overall the calm carrel was a very good idea.

The music was: average

The relaxation exercises were: good

The visualizations were: good

Was the calm carrel helpful? "no it didn't help me at all"

How was the calm carrel helpful? "it didn't help me at all"

What was best about the calm carrel? "I didn't like it at all"

Suggestions for improvement? "if you put colouring (sic) sheets in the com (sic: calm) box, would be calming you down let kid colour (sic)"

Favourite song? "No I didnt (sic) like nothing"

Student B10 Carrel Use Summary:

April 11: 3 pts. lost (**below** his baseline avg. of 5.8649; **below** his experimental avg. of 4.95)

14: 4.5 pts. lost (**below** his baseline average; **below** his experimental average)

14: C11 reported using the carrel 2 times on the 14th

15: 3.5 pts. lost (**below** his baseline average; **below** his experimental average)

16: 3.5 pts. lost (**below** his baseline average; **below** his experimental average)

16: C11 reported using the carrel 2 times on the 16th

May 30: 3.5 pts. lost (**below** his baseline average; **below** his experimental average)

June 5: 6 pts. lost (above his baseline average; above his experimental average)

Summary: B10 reported using the calm carrel 8 times during the study. His average point loss for the days he used the carrel was 4.0. This was **below** his baseline phase point average of 5.8649, and **below** his experimental average of 4.95.

Summary of B10's ratings of the calm carrel:

Overall the calm carrel was a very good idea.

The music was: very good

The relaxation exercises were: very good

The visualizations were: very good

Was the calm carrel helpful? "yes it ded (sic: did) very much"

How was the calm carrel helpful? "I lern (sic: learn) to com (sic: calm) my ager (sic: anger)"

What was best about the calm carrel? "biy (sic: by) lernin (sic: learning) stoff (sic: stuff)"

Suggestions for improvement? “bie (sic: by) doowing (sic: doing) mor (sic: more) stoff (sic: stuff) in wiff (sic: with?) like haveing (sic) tabil (sic: table) maners (sic: manners) and being gud (sic: good) to ether (sic: other) houmends (sic: humans)”
 Favourite song? “I don’t no (sic: know) wote (sic: what) the sog (sic: song) was cold (sic: called)”

Student B11 Carrel Use Summary:

April 16: 2 pts. lost (above his baseline avg. of 0.78; **below** his experimental avg. of 2.7407)

23: 1 pt. lost (above his baseline average; **below** his experimental average)

Summary: B11 reported using the calm carrel 2 times during the study. His average point loss for the days he used the carrel was 1.5. This was above his baseline phase point loss average of 0.78, and **below** his experimental average of 2.7407.

Summary of B11’s ratings of the calm carrel:

Overall the calm carrel was a fair idea.

The music was: fair

The relaxation exercises were: fair

The visualizations were: bad

Was the calm carrel helpful? “no”

How was the calm carrel helpful? “no way”

What was best about the calm carrel? “nothing”

Suggestions for improvement? “Diffrent (sic) music, panted (sic: painted) bady (sic: baby) blue on inside and outside. A real pither (sic: picture) of moutons (sic: mountains) stream forest eagle in sky & bear claw in front.”

Favourite song? “not number 1, 2, 3,…”

Experimental Class C’s Carrel Usage and Follow-up Survey Summaries

Student C1 Carrel Use Summary:

April 25: +40 point gain; -50 point loss (gain is below baseline average of 48.0263; loss is above baseline average of -15.9211; gain is marginally below experimental average of 40.375; loss is above experimental average of -20.375)

Summary: C1 reported using the calm carrel 1 time during the study. His point gain for the day he used the carrel was 40 and his point loss was 50. This was below his baseline point gain (48.0262) and his experimental point gain (40.375), and above his baseline point loss (-40.375) and his experimental point loss (-20.375).

Summary of C1's ratings of the calm carrel:

Overall the calm carrel was a bad idea.

The music was: bad

The relaxation exercises were: bad

The visualizations were: bad

Was the calm carrel helpful? "No"

How was the calm carrel helpful? "it didn't"

What was best about the calm carrel? "get away from working time"

Suggestions for improvement? "the kids choose the music (but no swears)"

Favourite song? "no"

Student C2 Carrel Use Summary:

C2 did not self-report any use of the calm carrel on the record charts. His calm carrel survey was fairly consistent with this (i.e. in that he stated the carrel was not helpful for him.) He did, however, rate the carrel as a good idea, the music as average, and the relaxation exercises and visualizations as poor. He also said that the calm carrel was good "to lissin (sic: listen) to music" and that the thing he liked best about the carrel was "the music." These latter responses would seem to indicate he might have used the carrel at some point (or points) and neglected to record this on the carrel record charts.

Student C3 Carrel Use Summary:

April 11: +0 point gain; -40 point loss (gain is below baseline average of 15.9722; loss is above baseline average of -36.9444; gain is below experimental average of 13.1707; loss is above experimental average of -35.9756)

-C3 reported using the calm carrel a total of 5 times on April 5th (this exceeded the 3 time-specified limit, but his teacher had granted permission for this as C3 had been having a very difficult day and chose to use the carrel to calm down).

April 29: +15 point gain; -35 point loss (gain is below baseline average; loss is **below** baseline average; gain is **above** experimental average; loss is **below** experimental average)

May 1: +50 point gain; -30 point loss (gain is **above** baseline average; loss is **below** baseline average; gain is **above** experimental average; loss is **below** experimental average)

June 12: +20 point gain; -50 point loss (gain is **above** baseline average; loss is above baseline average; gain is **above** experimental average; loss is above experimental average)

-C3 reported using the calm carrel 2 times on June 12th

Summary: C3 reported using the calm carrel 9 times during the study. His average point gain for the days he used the carrel was 21.25. This was **above** his baseline point gain average (15.9722) and also **above** his experimental point gain average (13.1707). His

average point loss for the days he used the carrel was -38.75. This was above his baseline point loss average (-36.9444) and also above his experimental phase point loss average (-35.9756).

Summary of C3's ratings of the calm carrel:

Overall the calm carrel was a fair idea.

The music was: bad

The relaxation exercises were: bad

The visualizations were: very good

Was the calm carrel helpful? "Yes"

How was the calm carrel helpful? "it help me feel carrel (sic: calm)"

What was best about the calm carrel? "I likd (sic: liked) the moske (sic: music?)" (*this contradicts C3's rating of the music as 'bad'; perhaps he misunderstood the rating format (stars)*)

Suggestions for improvement? "I like the way in tire" (??)

Favourite song? "sandmad (sic: Sandman)"

Student C4 Carrel Use Summary:

April 23: +20 point gain; -40 point loss (gain is below baseline average of 25.1220; loss is above baseline average of -28.5366; gain is below experimental average of 30.9524; loss is above experimental average of -29.5238)

June 9: +15 point gain; -35 point loss (gain is below baseline average; loss is above baseline average; gain is below experimental average; loss is above experimental average)

Summary: C4 reported using the calm carrel 2 times during the study. His average point gain for the days he used the carrel was 17.5. This was below his baseline point gain average (25.1220) and also below his experimental point gain average (30.9524). His average point loss for the days he used the carrel was -37.5. This was above his baseline point loss average (-28.5366) and also above his experimental phase point loss average (-29.5238).

Summary of C4's ratings of the calm carrel:

Overall the calm carrel was a good idea.

The music was: very good

The relaxation exercises were: bad

The visualizations were: average

Was the calm carrel helpful? "No"

How was the calm carrel helpful? "I never was upset when I went there. I just liked the music."

What was best about the calm carrel? "I liked the music."

Suggestions for improvement? "I would like it if there were singing."

Favourite song? "'A Walk Through the Forest' but I only like the music."

Student C5 Carrel Use Summary:

April 11: +0 point gain; -90 point loss (C5 was also suspended this day, but used the carrel prior to this); (gain is below his baseline average of 28.4146; loss is above baseline average of -31.2195; gain is **above** experimental average of -8.2; loss is above experimental average of -40.8)

April 16: -50 point gain; -80 point loss (gain is below baseline average; loss is above baseline average; gain is below experimental average; loss is above experimental average)

May 26: -55 point gain; -95 point loss (gain is below baseline average; loss is above baseline average; gain is below experimental average; loss is above experimental average)

Summary: C5 reported using the calm carrel 3 times during the study. His average point gain for the days he used the carrel was -35. This was below his baseline point gain average (28.4146) and also below his experimental point gain average (-8.2). His average point loss for the days he used the carrel was -88.3333. This was above his baseline point loss average (-31.2195) and also above his experimental phase point loss average (-40.8). Unfortunately, C5 left the school at the end of May, and as such was unable to complete a calm carrel survey at the conclusion of the study.

Student C6 Carrel Use Summary:

June 4: +20 point gain; -20 point loss; (gain is below his baseline average of 38.7805; loss is above his baseline average of -14.7561; gain is below his experimental average of 25.2381 points; loss is **below** his experimental average of -30.2381)

Summary: C6 reported using the calm carrel 1 time during the study. His point gain for the day he used the carrel was 20 and his point loss was -20. This was below his baseline point gain average (38.7805) and his experimental point gain average (25.2381), and above his baseline point loss (-14.7561) but **below** his experimental point loss (-30.2381).

Summary of C6's ratings of the calm carrel:

Overall the calm carrel was a good idea.

The music was: fair

The relaxation exercises were: bad

The visualizations were: very good

Was the calm carrel helpful? "a little bit"

How was the calm carrel helpful? "the calm carrel really calmed me down"

What was best about the calm carrel? "the visualization (sic) were best"

Suggestions for improvement? "more visualizations"

Favourite song? "no"

Student C7 Carrel Use Summary:

April 29: -80 point gain; -100 point loss (gain is below his baseline average of 31.4634; loss is above his baseline average of -18.0488; gain is below his experimental

average of 38.2143; loss is above his above his experimental average of -26.4286)

June 6: -80 point gain; -100 point loss (gain is below his baseline average; loss is above his baseline average; gain is below his experimental average; loss is above his experimental average)

C7 reported using the calm carrel a total of 3 times on June the 6th

June 11: +70 point gain; 0 point loss (gain is **above** his baseline average; loss is **below** his baseline average; gain is **above** his experimental average; loss is **below** his experimental average)

Summary: C7 reported using the calm carrel 5 times during the study. His average point gain for the days he used the carrel was -30. This was below his baseline point gain average (31.4634) and also below his experimental point gain average (38.2143). His average point loss for the days he used the carrel was -66.6667. This was above his baseline point loss average (-18.0488) and also above his experimental phase point loss average (-26.4286).

Summary of C7's ratings of the calm carrel:

Overall the calm carrel was a very good idea.

The music was: very good

The relaxation exercises were: fair

The visualizations were: very good

Was the calm carrel helpful? "yes"

How was the calm carrel helpful? "I liked the visuailzations (sic: visualizations) ant (sic: and) the music."

What was best about the calm carrel? "the music"

Suggestions for improvement? "no way it is the best"

Favourite song? "Ah Oh I don't know what it was called."

Student C8 Carrel Use Summary:

April 17: -30 point gain; -60 point loss (gain is below his baseline average of 17.2222; loss is above his baseline average of -31.1111; gain is below his experimental average of 23.0488 points; loss is above his experimental average of -25.3659)

May 26: -25 point gain; -55 point loss (gain is below his baseline average; loss is above his baseline average; gain is below his experimental average; loss is above his experimental average)

Summary: C8 reported using the calm carrel 2 times during the study. His average point gain for the days he used the carrel was -27.5. This was below his baseline point gain average (17.2222) and also below his experimental point gain average (23.0488). His average point loss for the days he used the carrel was -57.5. This was above his baseline point loss average (-31.1111) and also above his experimental phase point loss average (-25.3659).

Summary of C8's ratings of the calm carrel:

Overall the calm carrel was a very good idea.

The music was: bad

The relaxation exercises were: average

The visualizations were: fair

Was the calm carrel helpful? "No"

How was the calm carrel helpful? "I like to ware (sic: wear) headphones"

What was best about the calm carrel? "getting away from the group"

Suggestions for improvement? "it could have better music"

Favourite song? "I didn't have one."

Appendix N: Teachers' Calm Carrel Survey Responses

Teacher A1 Calm Carrel Survey Results:

The calm carrel was a useful option to have available for students: Agree

The calm carrel fit in well with my existing approach to management: Strongly Agree

Students used the calm carrel appropriately: Agree

I would consider implementing a similar self-mgmt. intervention in future: Neutral

Re. the quality of the three half-hour training sessions provided to the students:

"The presentations were good. However they should have spent more time on recognizing when they are frustrated; the kids have a hard time identifying when they are frustrated."

Re. the parameters set out for student use of the calm carrel:

"Well done."

Re. the materials and strategies provided for student use at the calm carrel:

"great, not the sort of thing they seek out for entertainment rather than for a timeout."

Re. the appropriateness of the calm carrel as a tool for general classroom management with this population of students:

"I think it would be a great strategy."

Re. the specific utility of the calm carrel in fostering student self-management skills:

"it has potential; I often feel my students enjoy the opportunity to go into timeout and act up; as a result the carrel didn't do what they wanted."

Further comments:

"great idea; my kids have a hard time identifying their frustration; they prefer the opportunity to perform as opposed to sitting quiet."

Teacher Aide A1 Calm Carrel Survey Results:

The calm carrel was a useful option to have available for students: Agree

The calm carrel fit in well with my existing approach to management: Agree

Students used the calm carrel appropriately: Neutral

I would consider implementing a similar self-mgmt. intervention in future: Agree

Further comments:

"more emphasis on discussing to students what "frustration" is; some students have a tendency (sic: tendency) of not knowing what frustration is. Overall, I think it's a great idea; probably could be used in regular classes in near future. Good luck."

Teacher B1 Calm Carrel Survey Results:

The calm carrel was a useful option to have available for students: Agree

The calm carrel fit in well with my existing approach to management: Agree

Students used the calm carrel appropriately: Strongly Agree

I would consider implementing a similar self-mgmt. intervention in future: Neutral

Re. the quality of the three half-hour training sessions provided to the students:

“No comment. Students used it appropriately.” (*question may have been misinterpreted here*)

Re. the parameters set out for student use of the calm carrel:

“appropriate”

Re. the materials and strategies provided for student use at the calm carrel:

“excellent”

Re. the appropriateness of the calm carrel as a tool for general classroom management with this population of students:

“OK but over time its usage diminished.”

Re. the specific utility of the calm carrel in fostering student self-management skills:

“another appropriate alternative”

Further comments:

“it works appropriately”

Teacher B2 Calm Carrel Survey Results:

The calm carrel was a useful option to have available for students: Agree

The calm carrel fit in well with my existing approach to management: Agree

Students used the calm carrel appropriately: Agree

I would consider implementing a similar self-mgmt. intervention in future: Neutral

Re. the quality of the three half-hour training sessions provided to the students:

“very useful”

Re. the parameters set out for student use of the calm carrel:

“very straight-forward and clear; students understood very well what was expected of them”

Re. the materials and strategies provided for student use at the calm carrel:

“appropriate”

Re. the appropriateness of the calm carrel as a tool for general classroom management with this population of students:

“fitting well”

Re. the specific utility of the calm carrel in fostering student self-management skills:

“additional option to have available in the classroom”

Further comments:

“good option to have”

Teacher C1 Calm Carrel Survey Results:

The calm carrel was a useful option to have available for students: Strongly Agree

The calm carrel fit in well with my existing approach to management: Strongly Agree

Students used the calm carrel appropriately: Agree

I would consider implementing a similar self-mgmt. intervention in future: Agree

Further comments:

“I would recomend (sic) several actual teaching sessions to practice with CDs several times so kids will know what to do & how positive the feeling can be when they choose to go there.”

Teacher Aide C1 Calm Carrel Survey Results:

The calm carrel was a useful option to have available for students: Agree

The calm carrel fit in well with my existing approach to management: Agree

Students used the calm carrel appropriately: Agree

I would consider implementing a similar self-mgmt. intervention in future: Agree

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